

FIG. 1

FOR INFORMATION

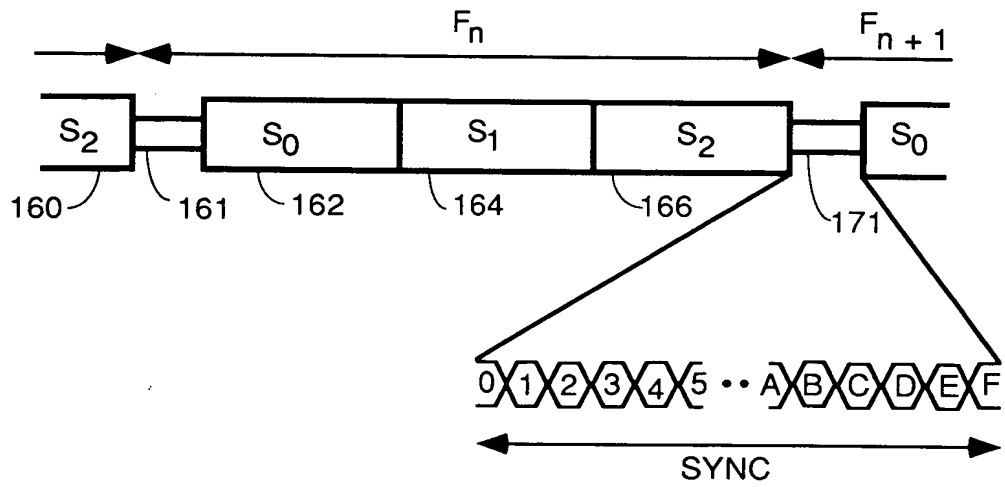


FIG. 2A

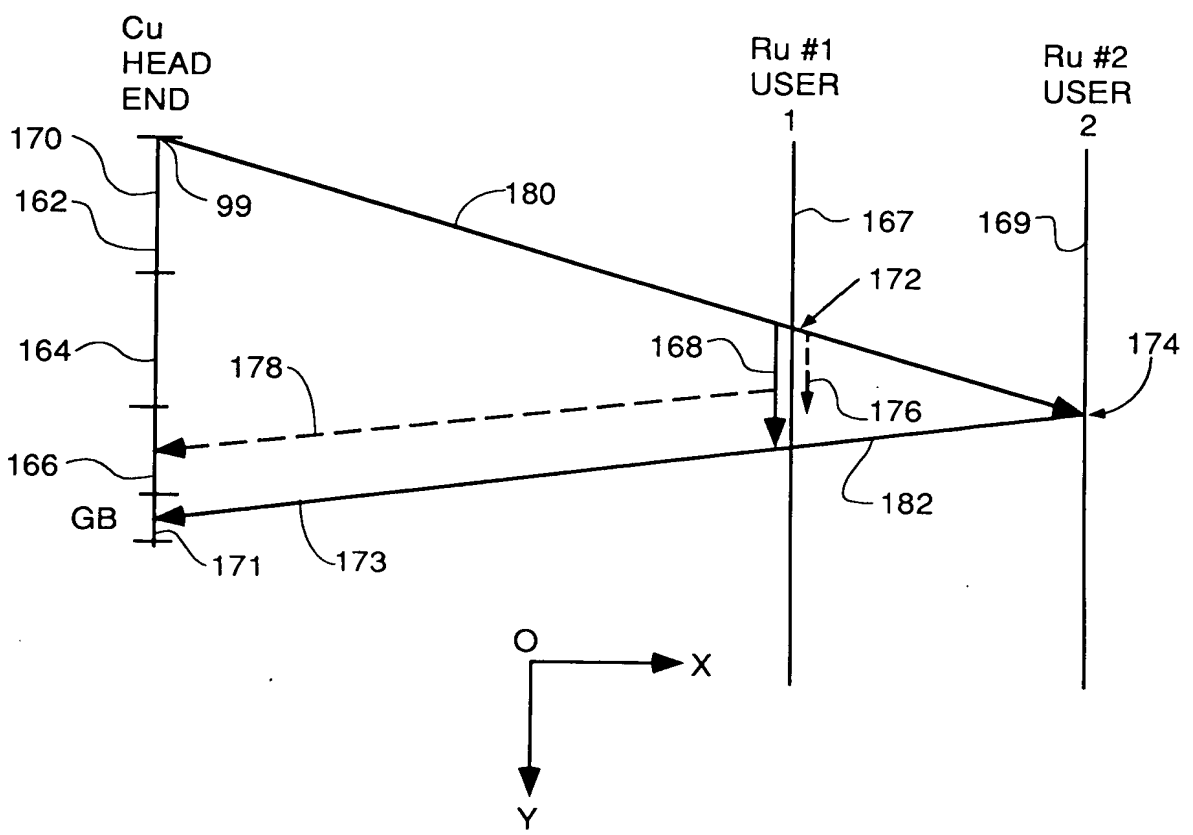


FIG. 2B

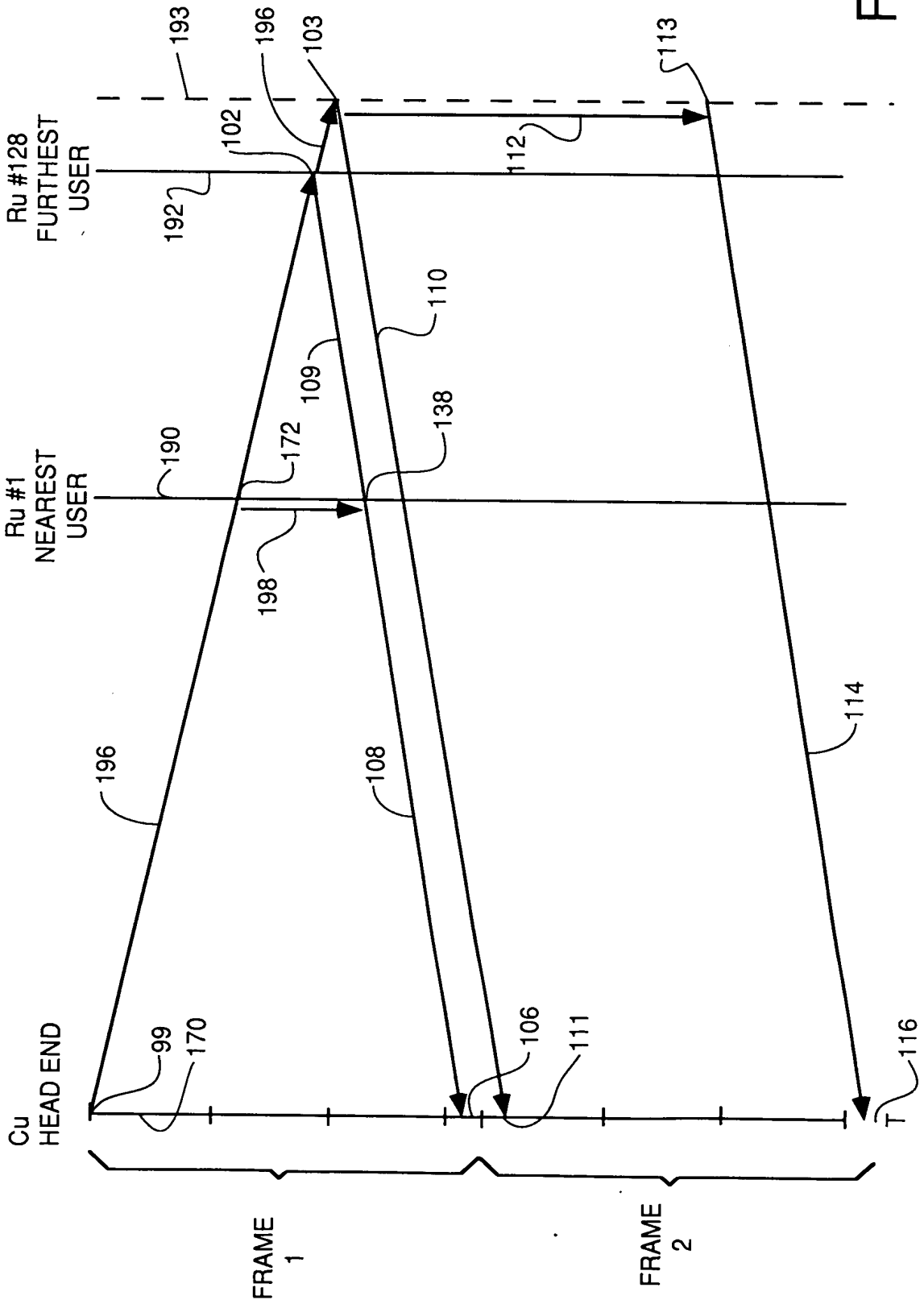


FIG. 3

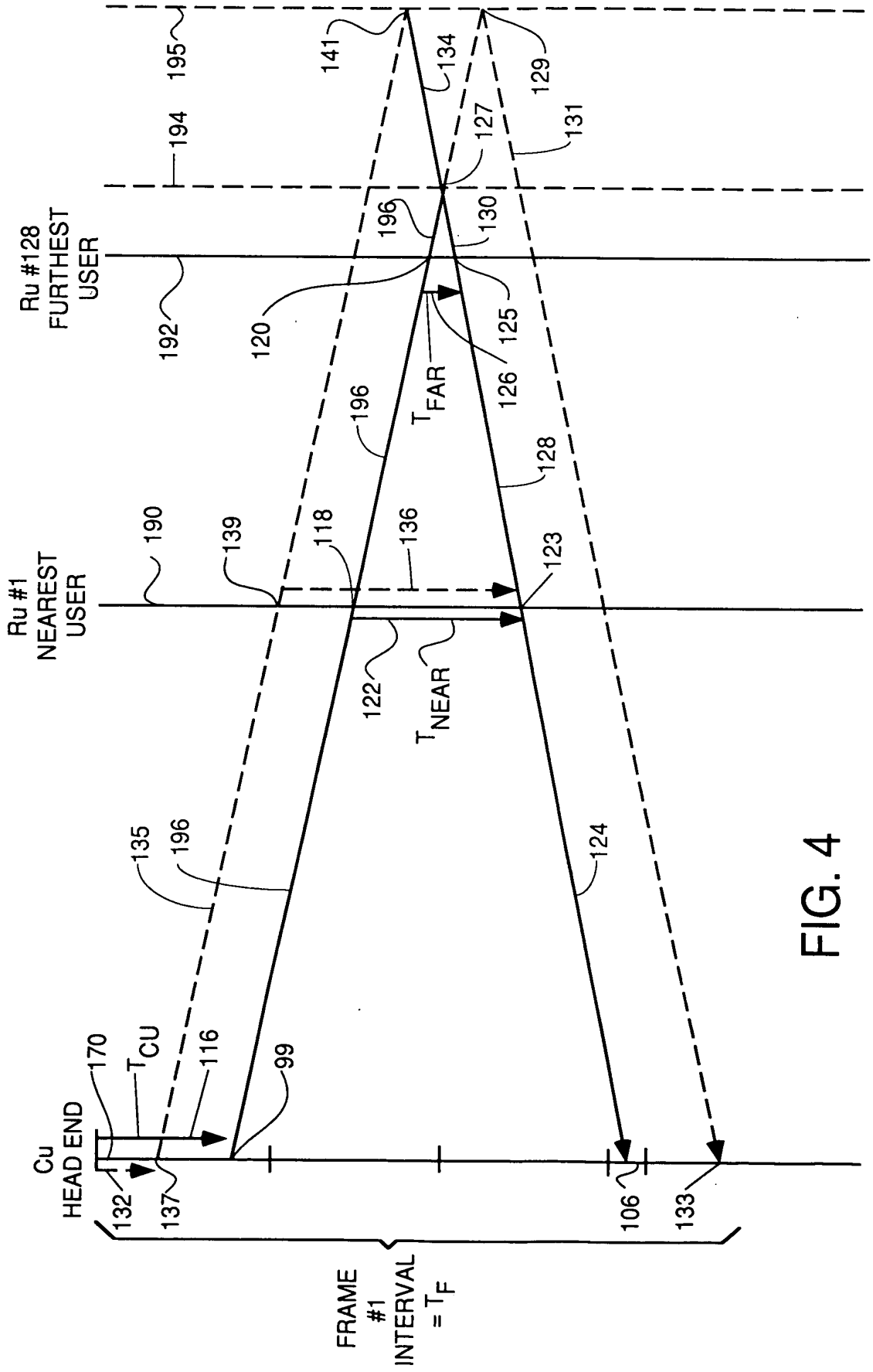
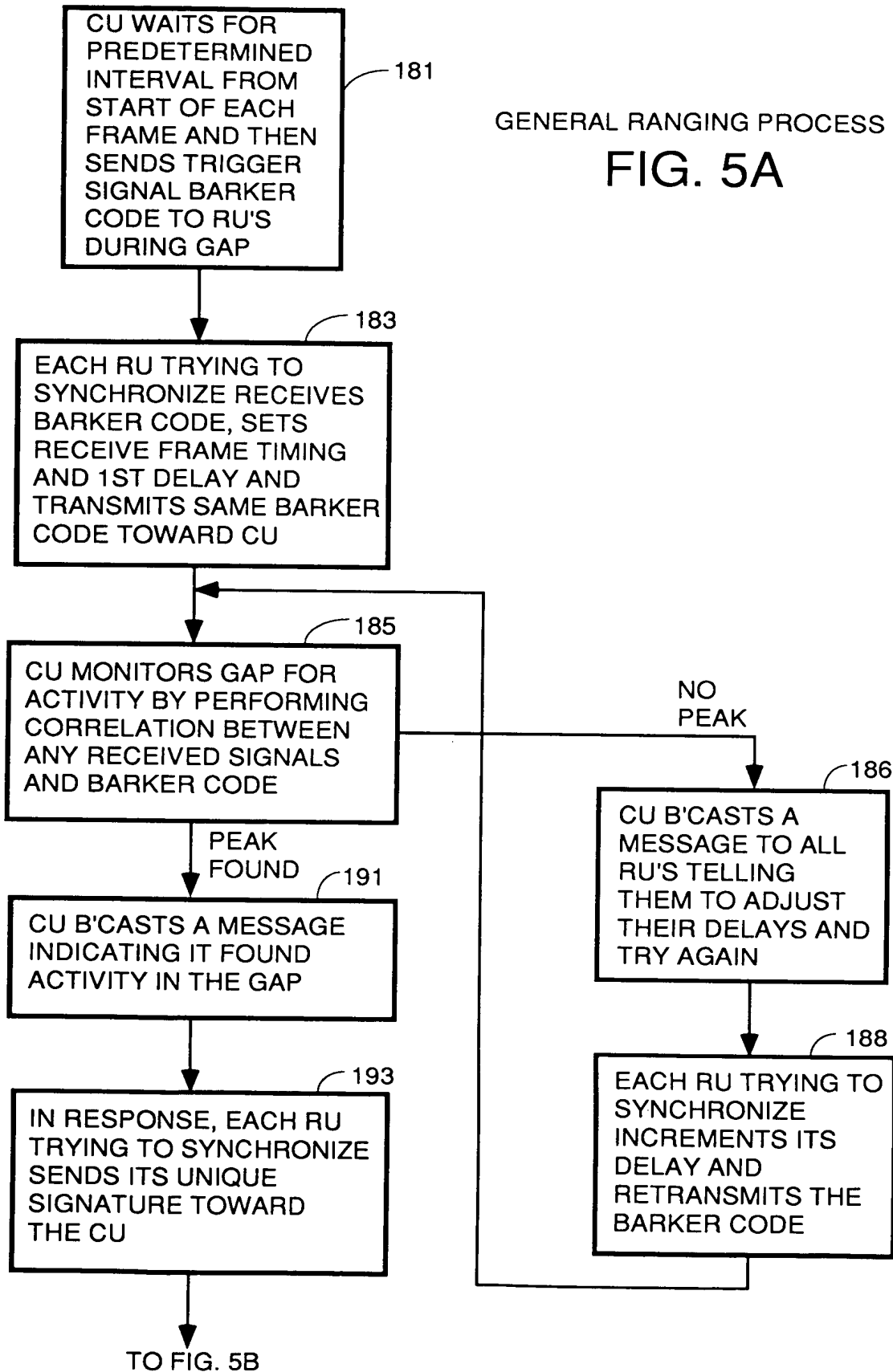


FIG. 4

Patent 6,259,260

GENERAL RANGING PROCESS
FIG. 5A



Patent 6,233,660

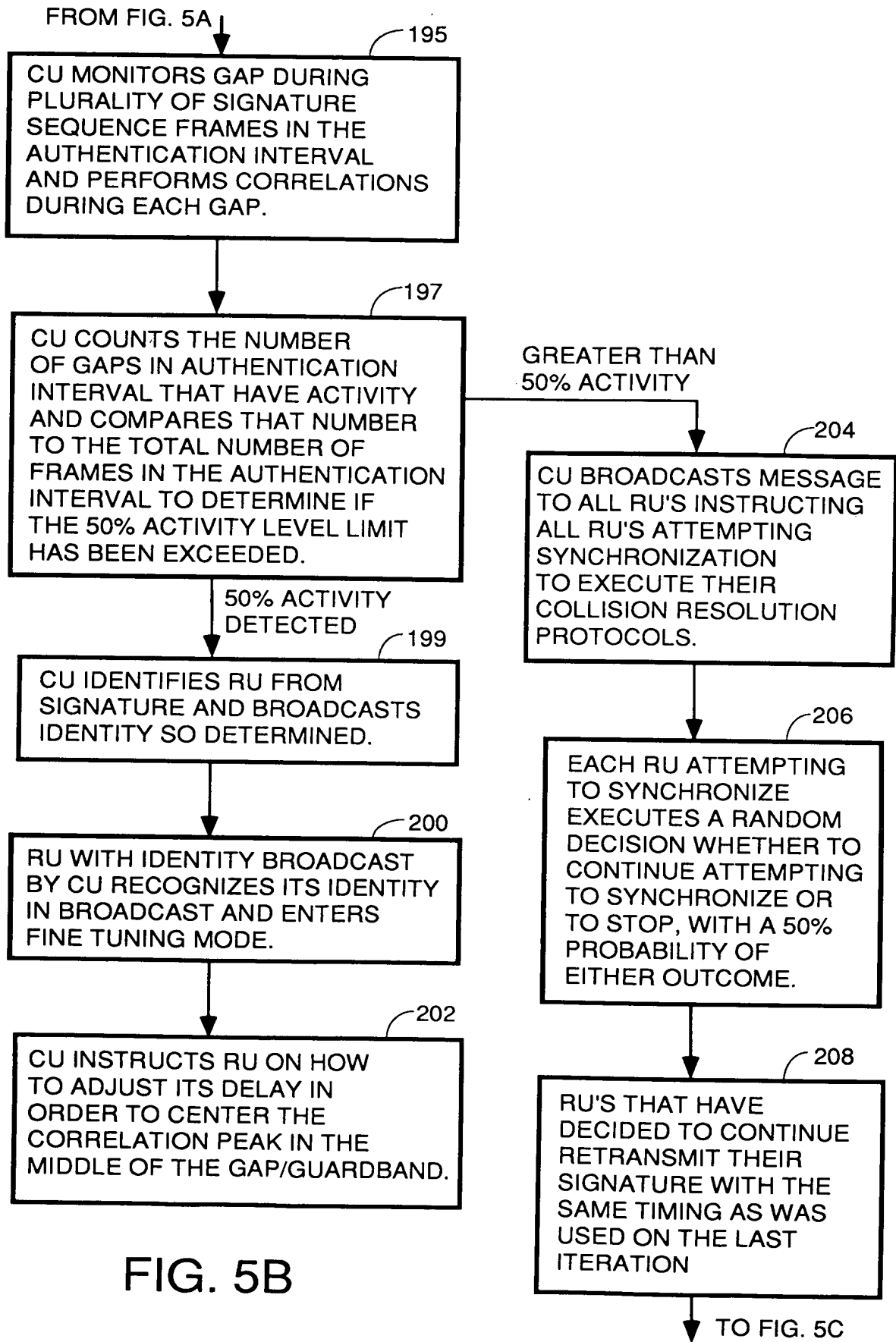


FIG. 5B

Patent 6,639,260

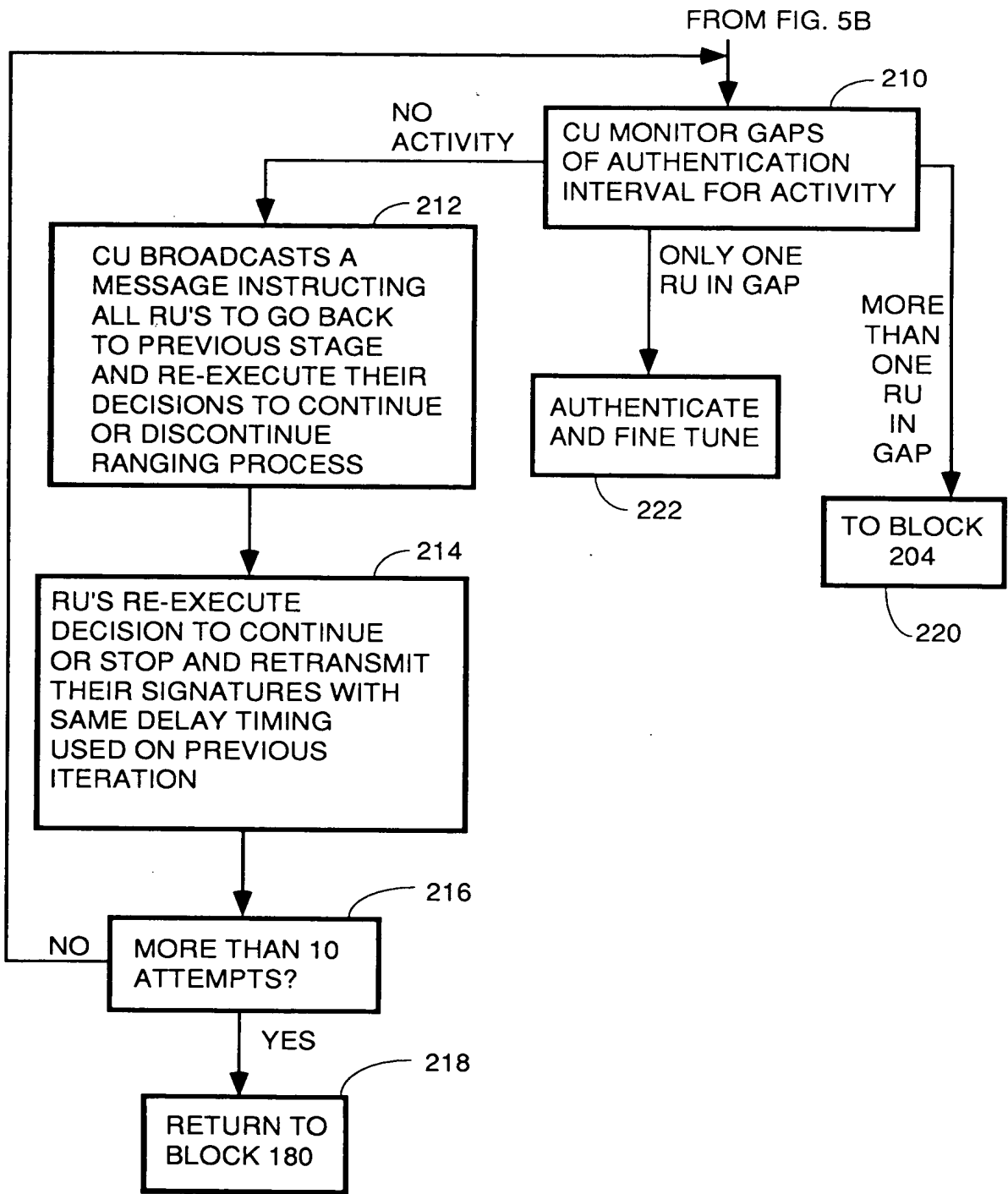


FIG. 5C

62233466

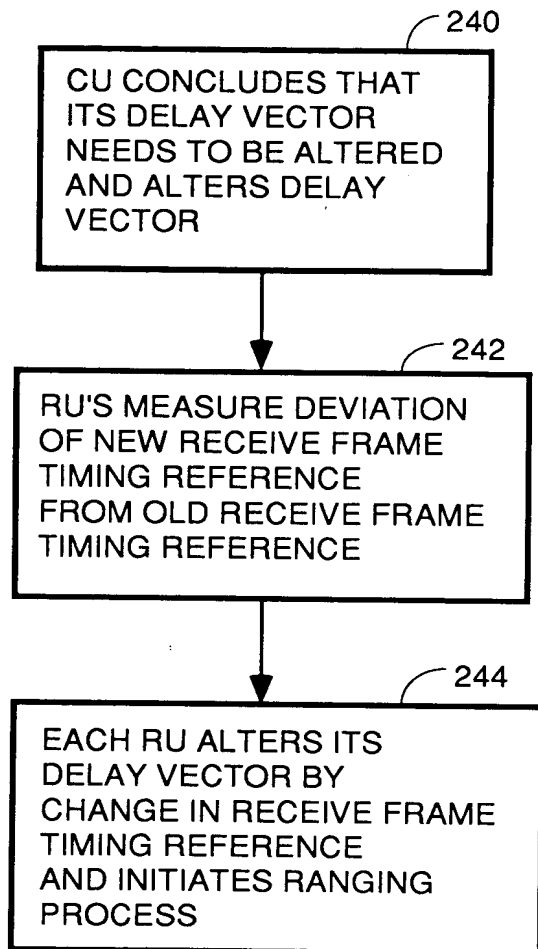
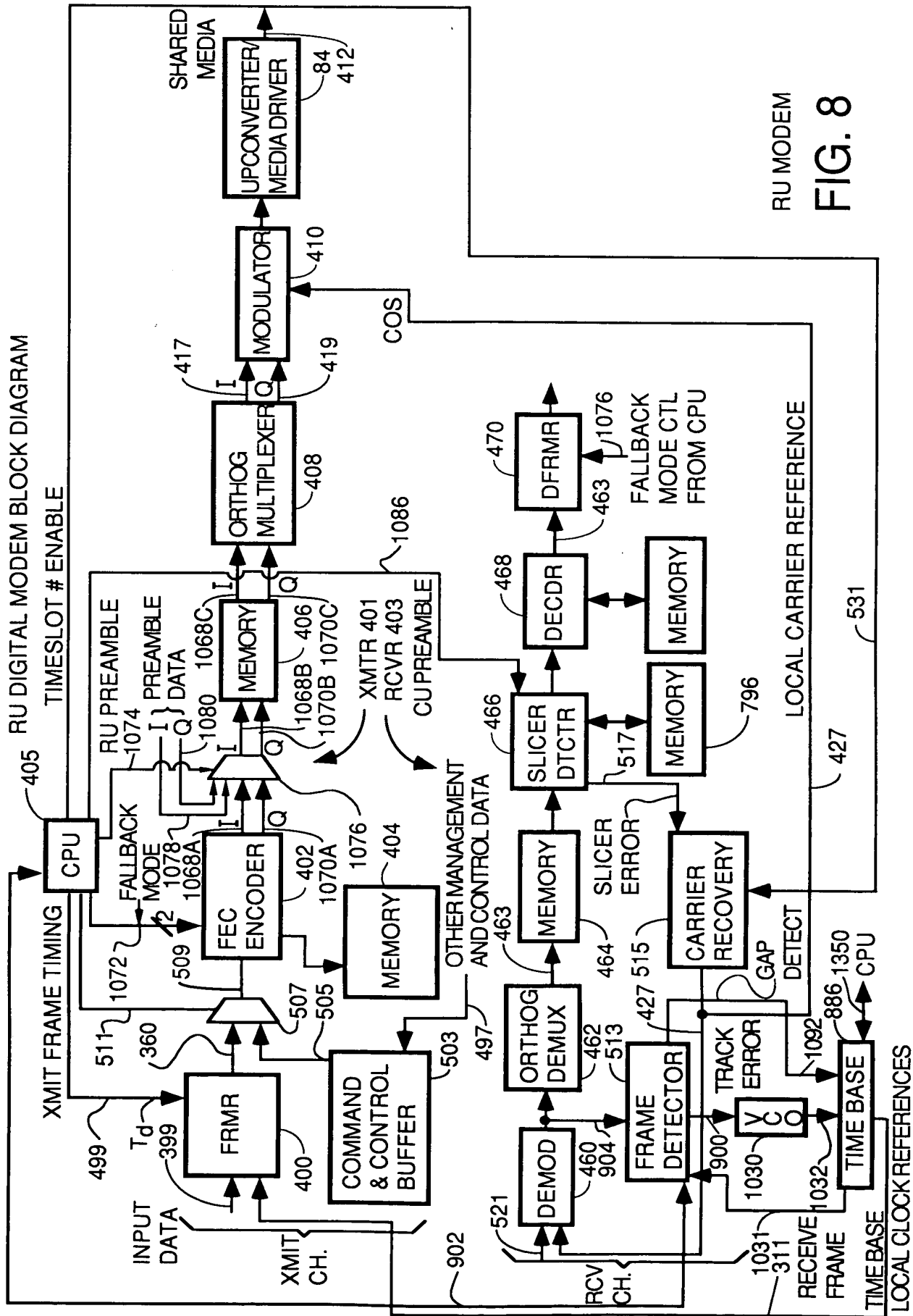


FIG. 6
DEAD RECKONING RE-SYNC



RU MODEM
FIG. 8

FIG. 9

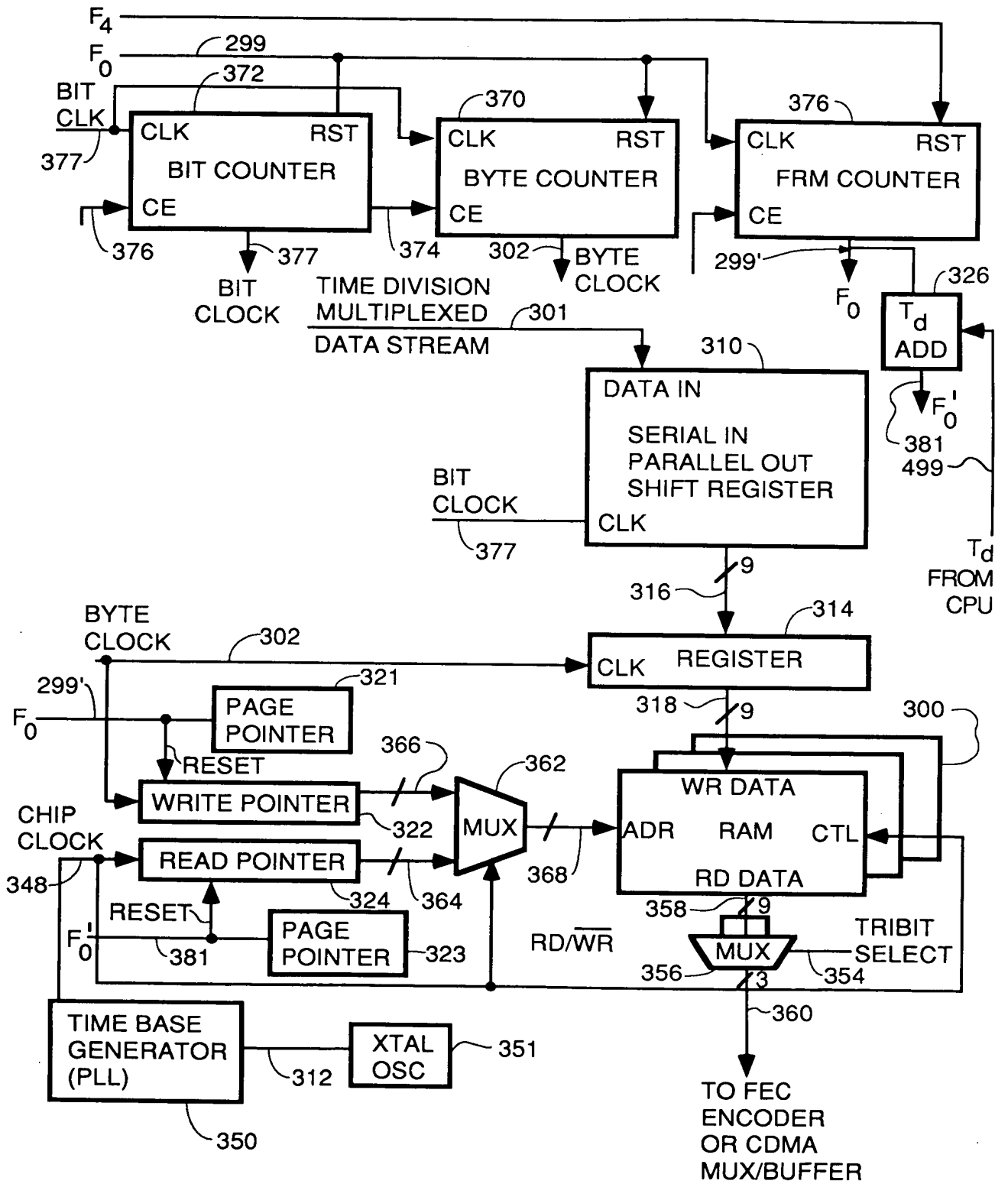


FIG. 9

FILE NO: 6233260

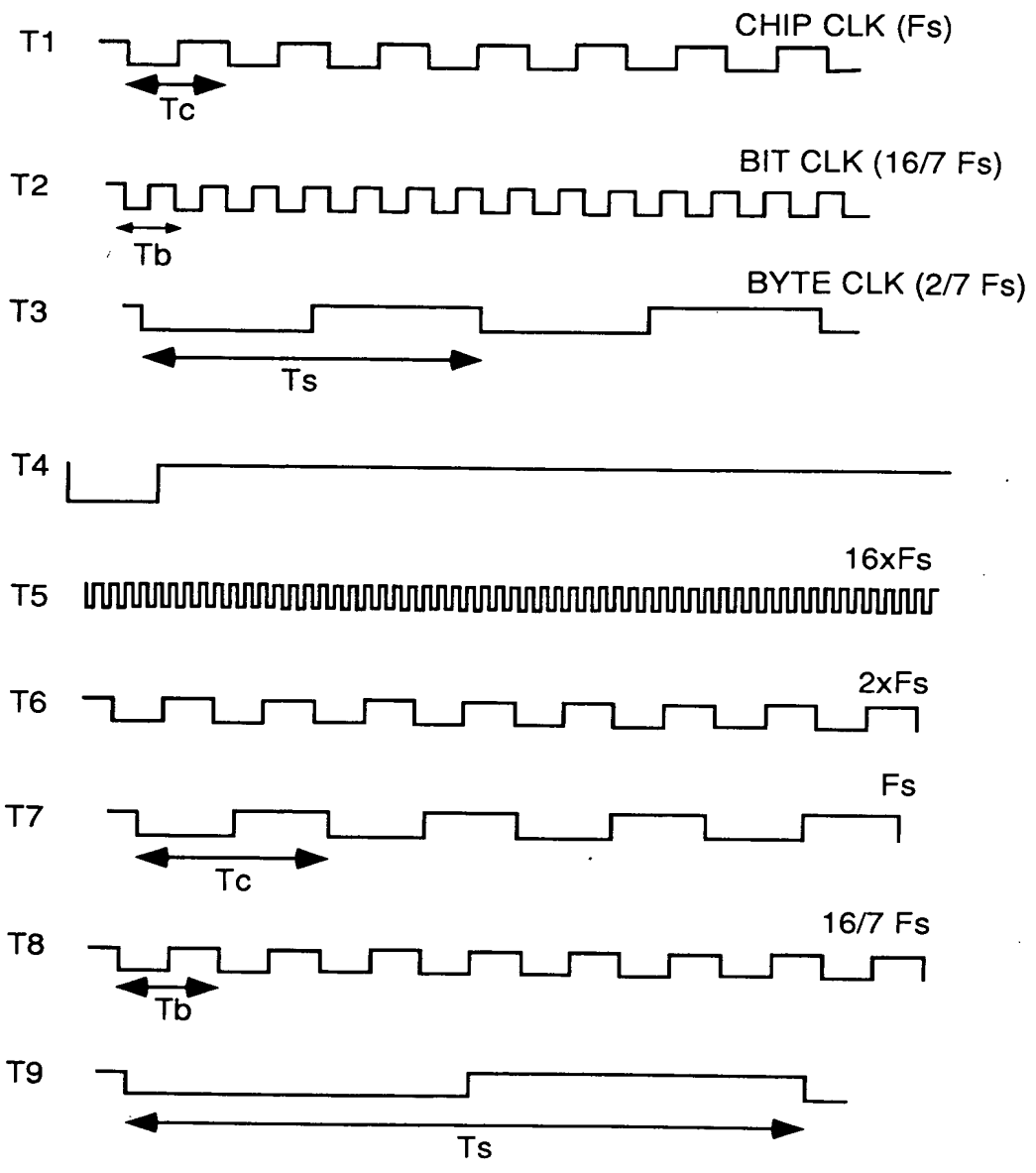


FIG. 10

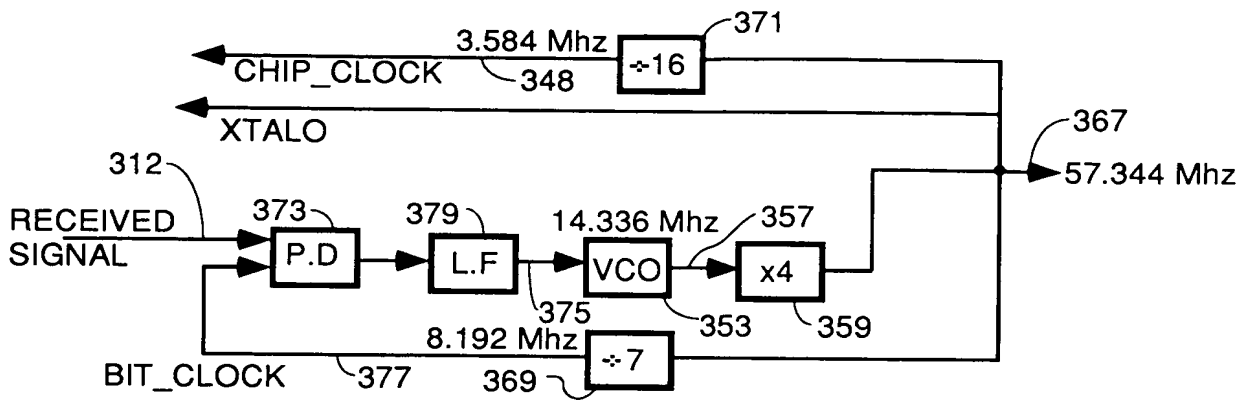


FIG. 11

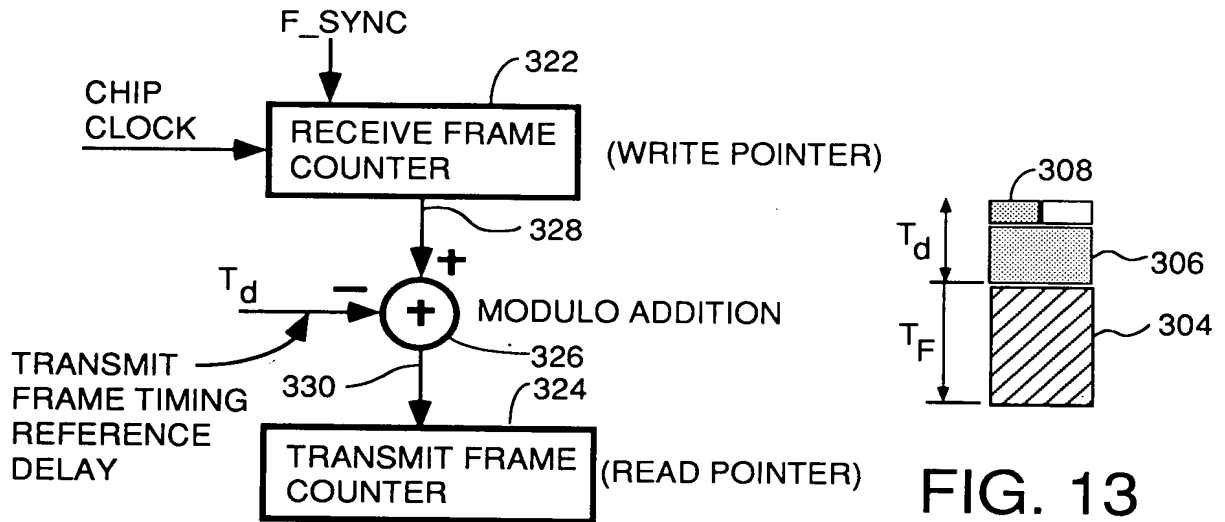


FIG. 12

FIG. 13

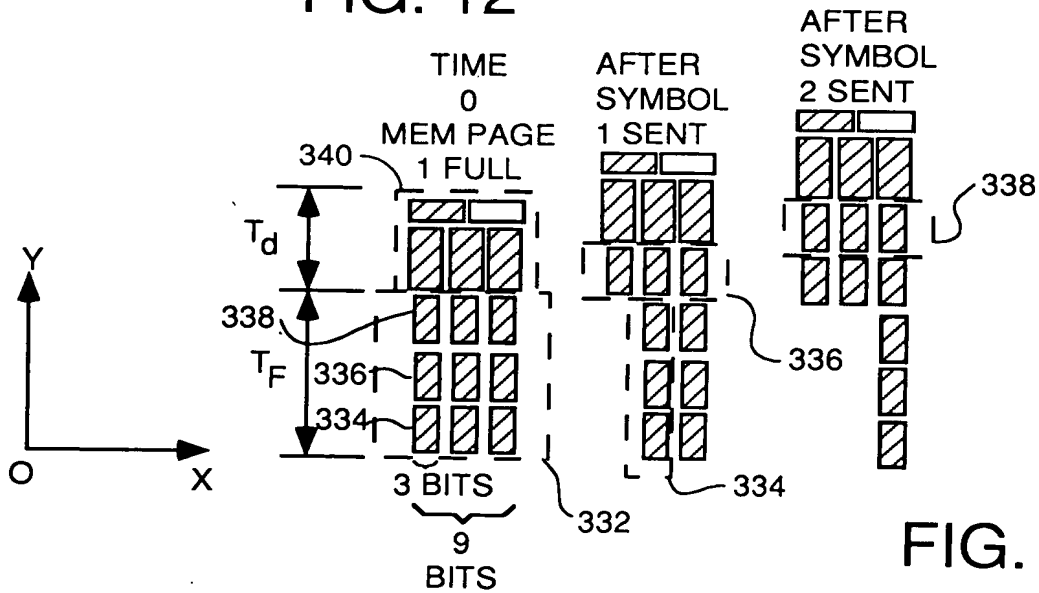


FIG. 14

FIG. 10 6229260

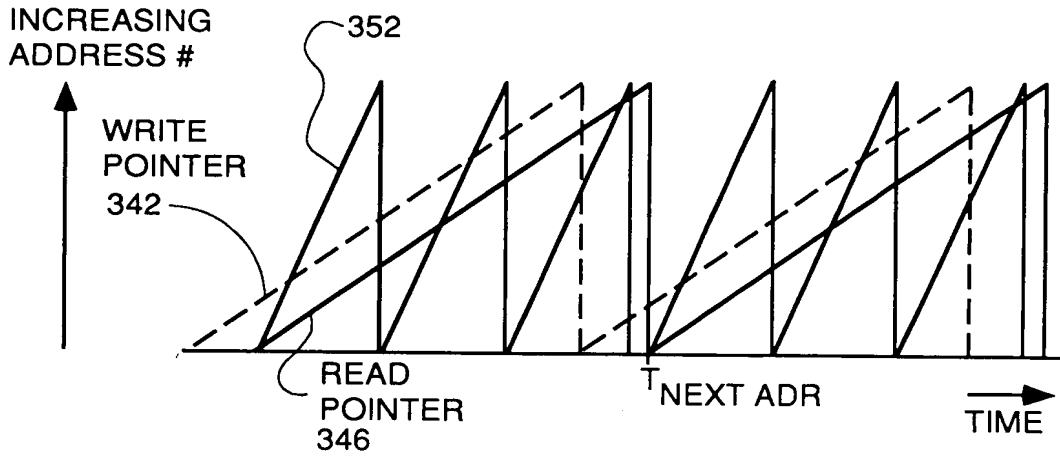


FIG. 15

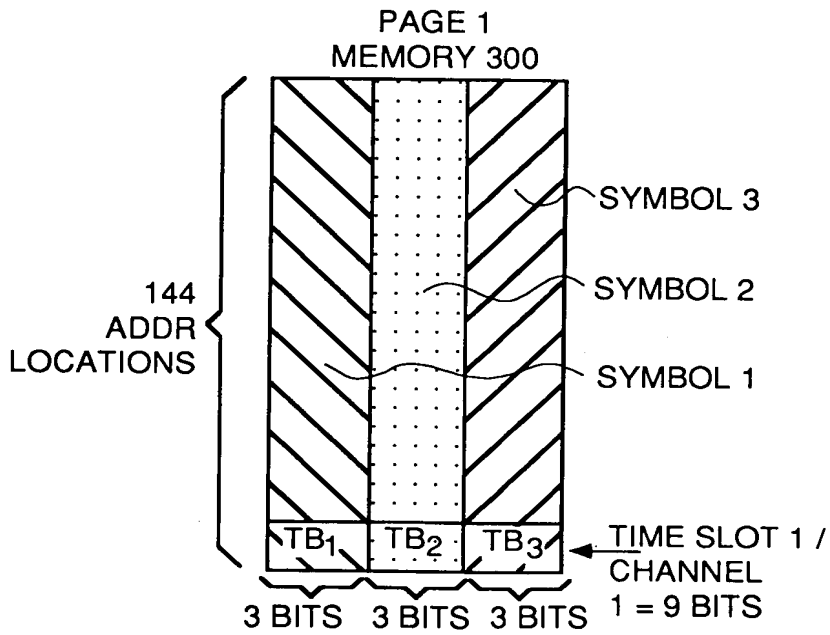
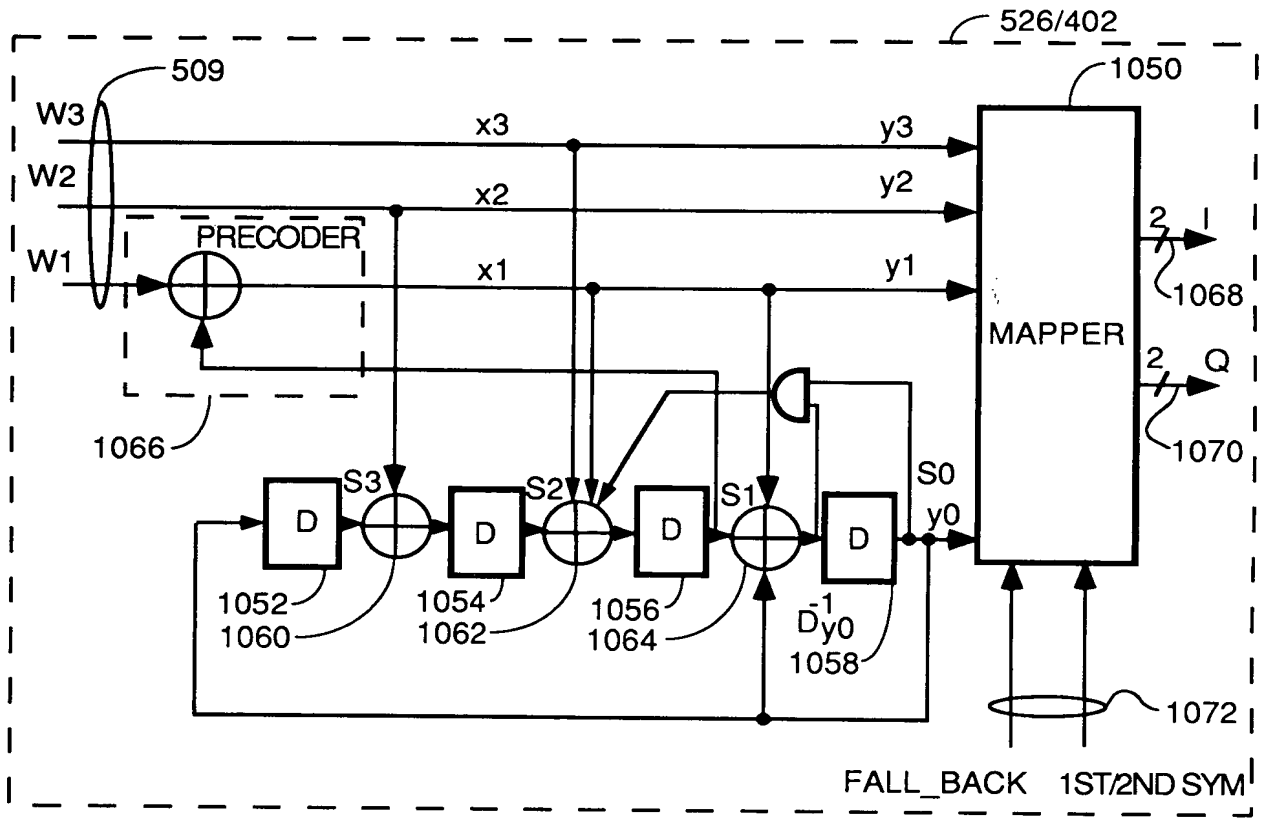


FIG. 16

"FOOT" 6253260

FIG. 17



PREFERRED TRELLIS ENCODER
FIG. 17

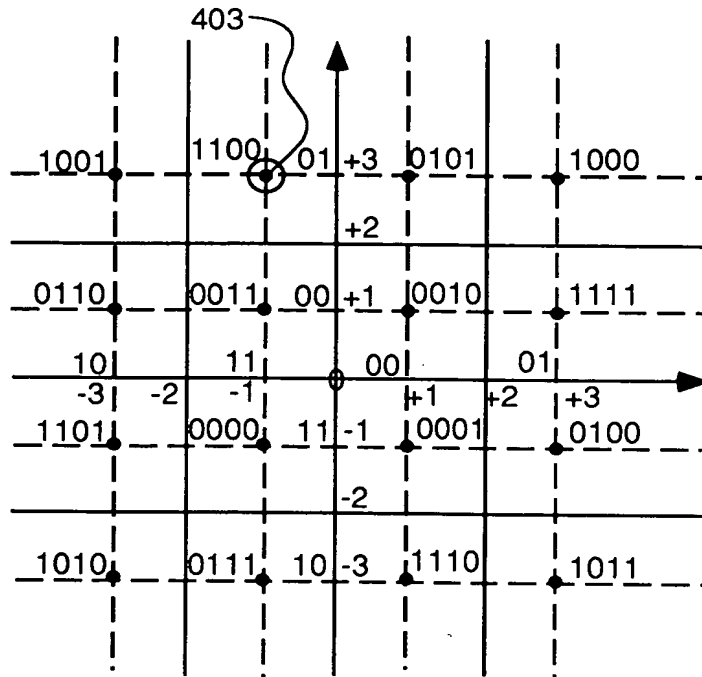


FIG. 18

0000	111	111	
0001	001	111	= 1 - j
0010	001	001	= 1 + j
0011	111	001	= -1 + j
0100	011	111	= 3 - j
0101	001	011	= 1 + 3*j
0110	101	001	= -3 + j
0111	111	101	= -1 - 3*j
1000	011	011	= +3 + 3*j
1001	101	011	= -3 + 3*j
1010	101	101	= -3 - 3*j
1011	011	101	= 3 - 3*j
1100	111	011	= -1 + 3*j
1101	101	111	= -3 - j
1110	001	101	= 1 - 3*j
1111	011	001	= 3 + j

FIG. 19

FIG. 20A

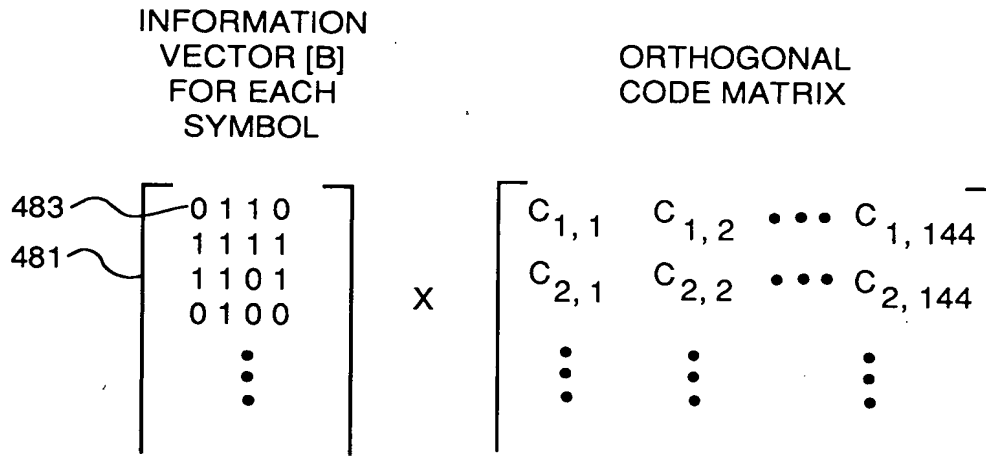


FIG. 20A

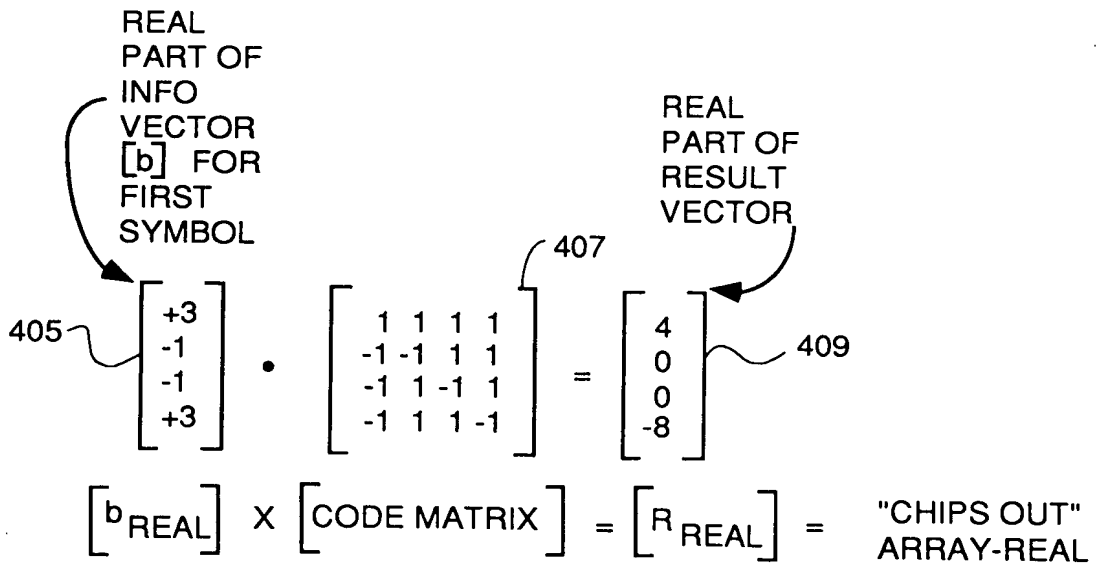


FIG. 20B

MAPPING FOR FALL-BACK MODE - LSB'S

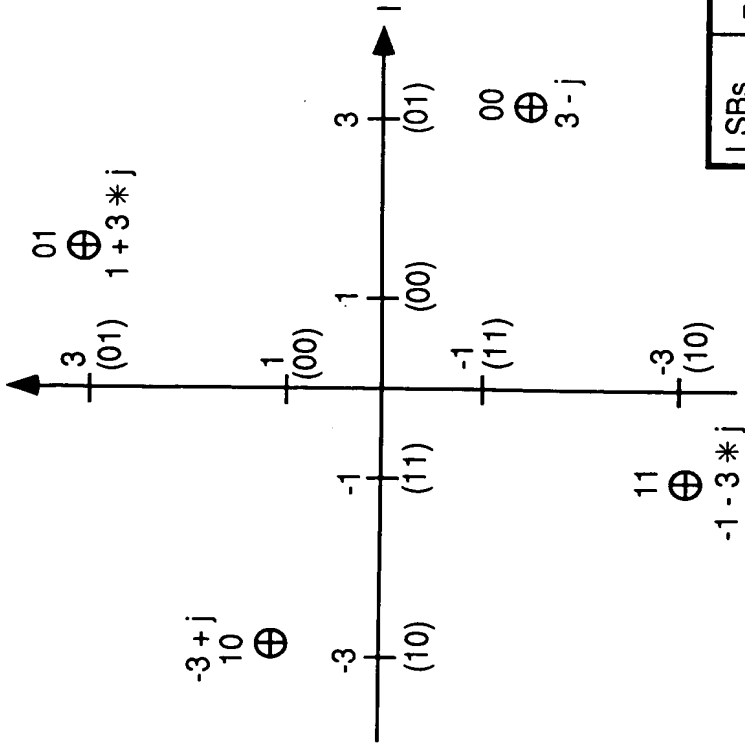


FIG. 21

MSBs y3 y2	PHASE difference (2nd-1st symbol)	1+jQ WHEN LSB=00	1+jQ WHEN LSB=01	1+jQ WHEN LSB=10	1+jQ WHEN LSB=11
00	0	3-j	1+j3	-3+j	-1-j3
01	90	1+j3	-3+j	-1-j3	3-j
10	180	-3+j	-1-j3	3-j	1+j3
11	-90	-1-j3	3-j	1+j3	-3+j

LSBs y1 y0	PHASE	1+jQ
00	0	3-j
01	90	1+j3
10	180	-3+j
11	-90	-1-j3

LSB & MSB FALLBACK MODE MAPPINGS

FIG. 22

FIG. 23

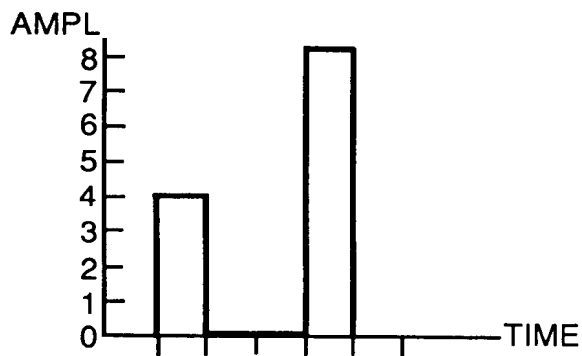
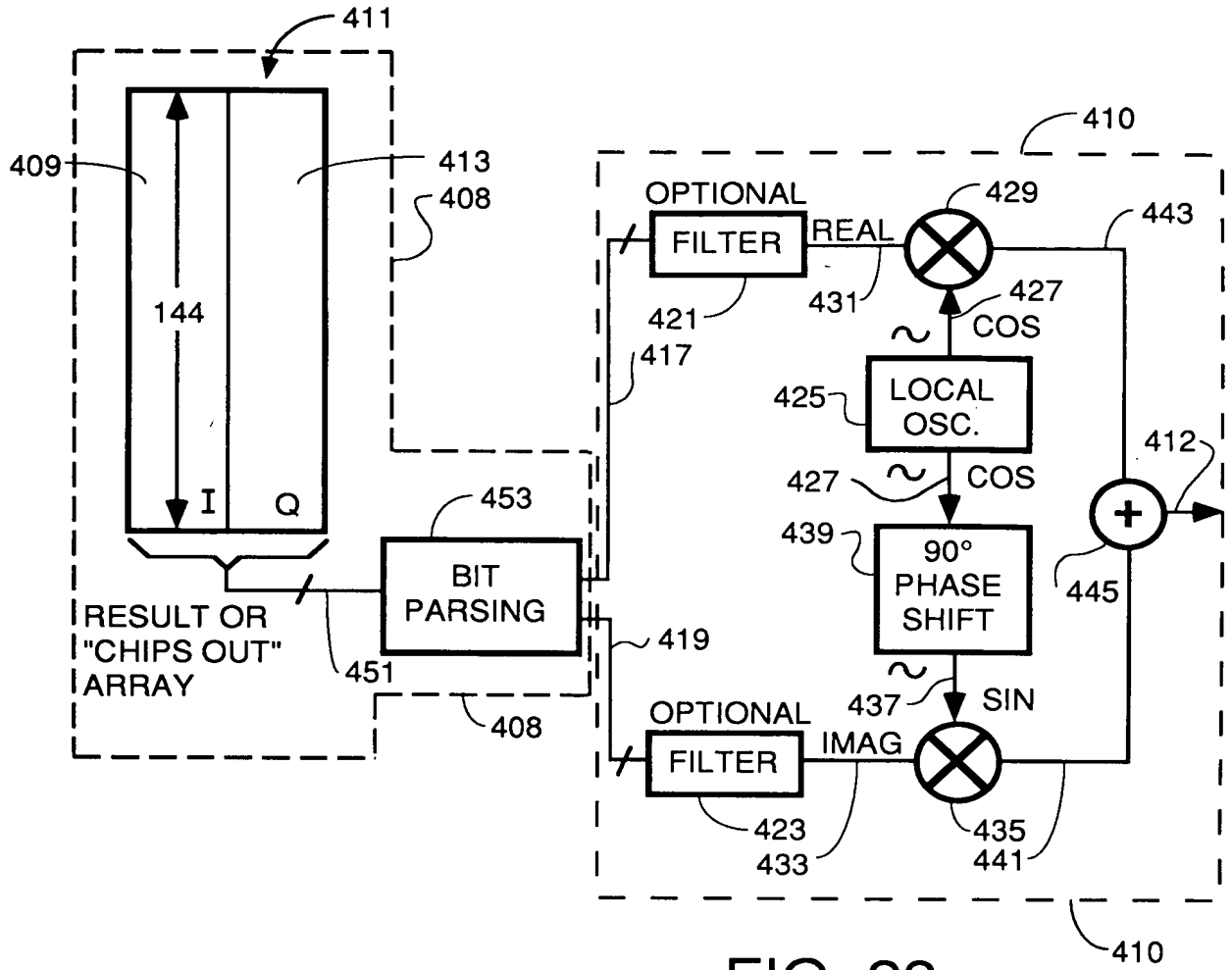


FIG. 24

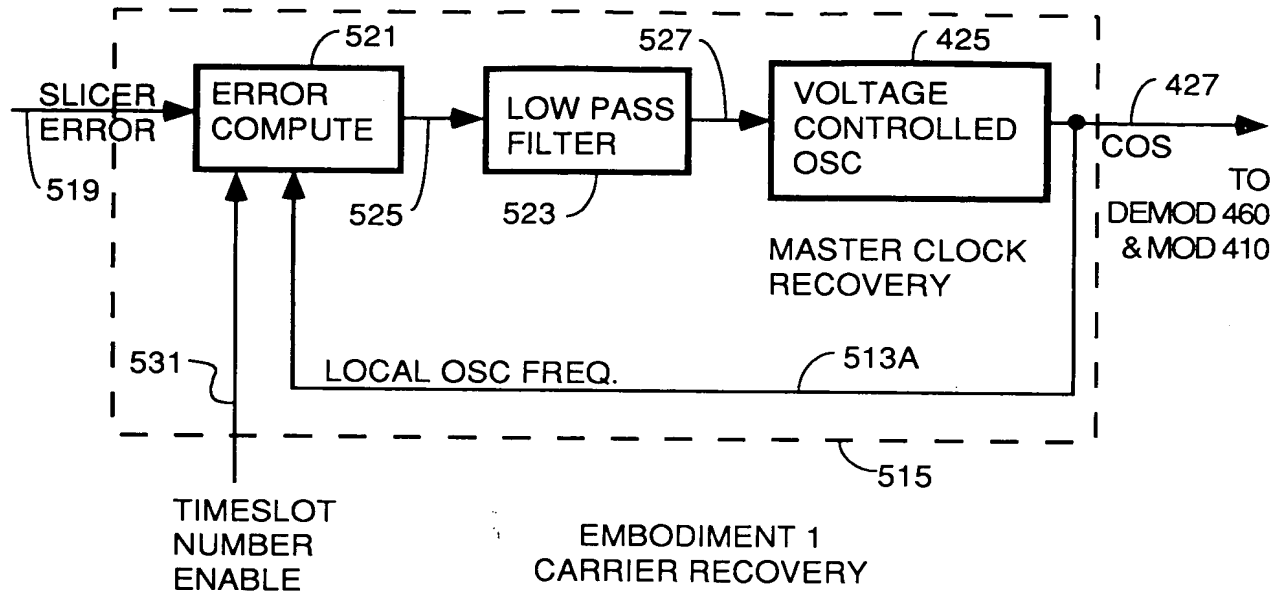


FIG. 25

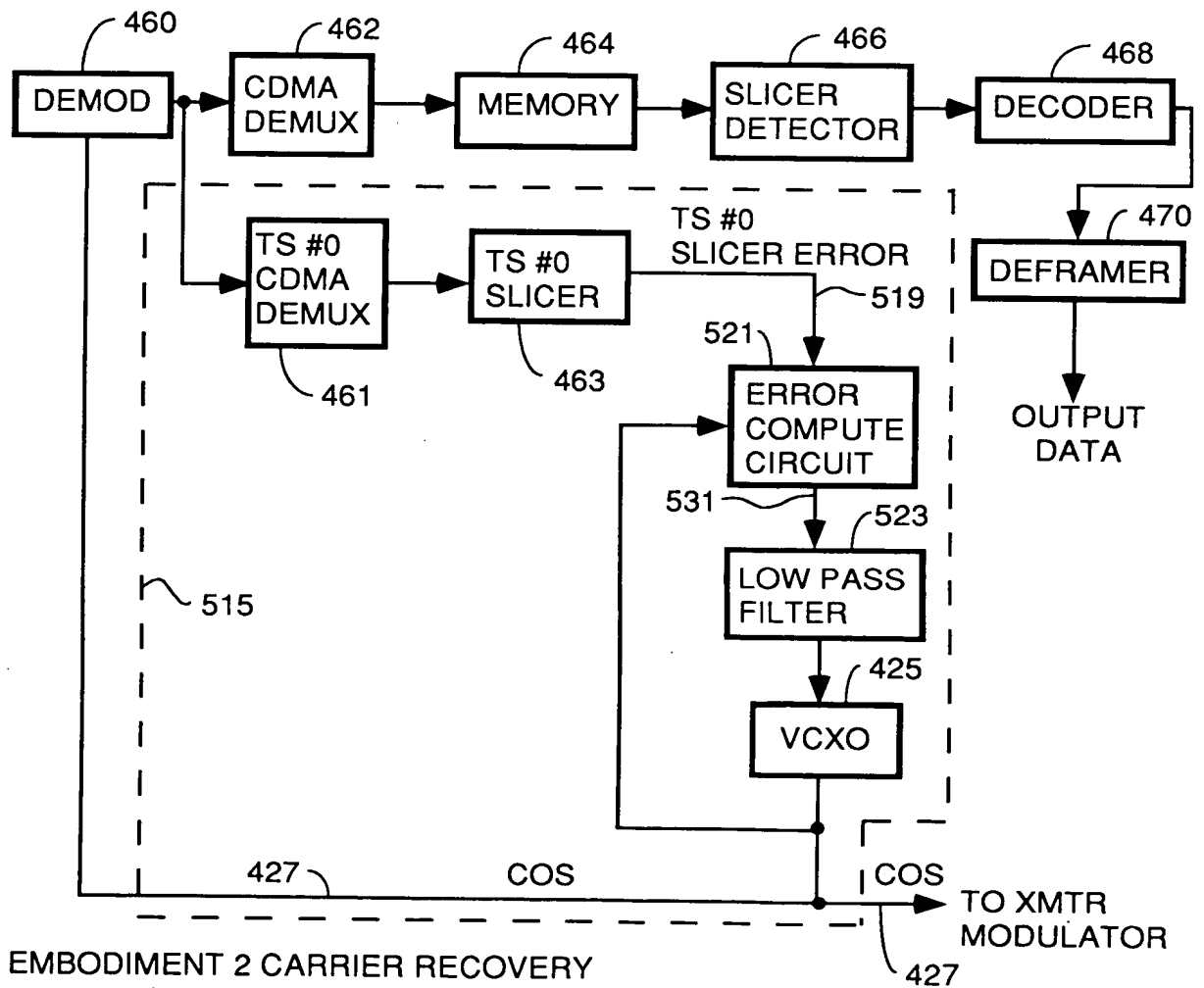


FIG. 26

460 462 464 466 468 470 427 425 423 519 521 523 531 515 513A 427 425 521 523 531 515

FIG. 27

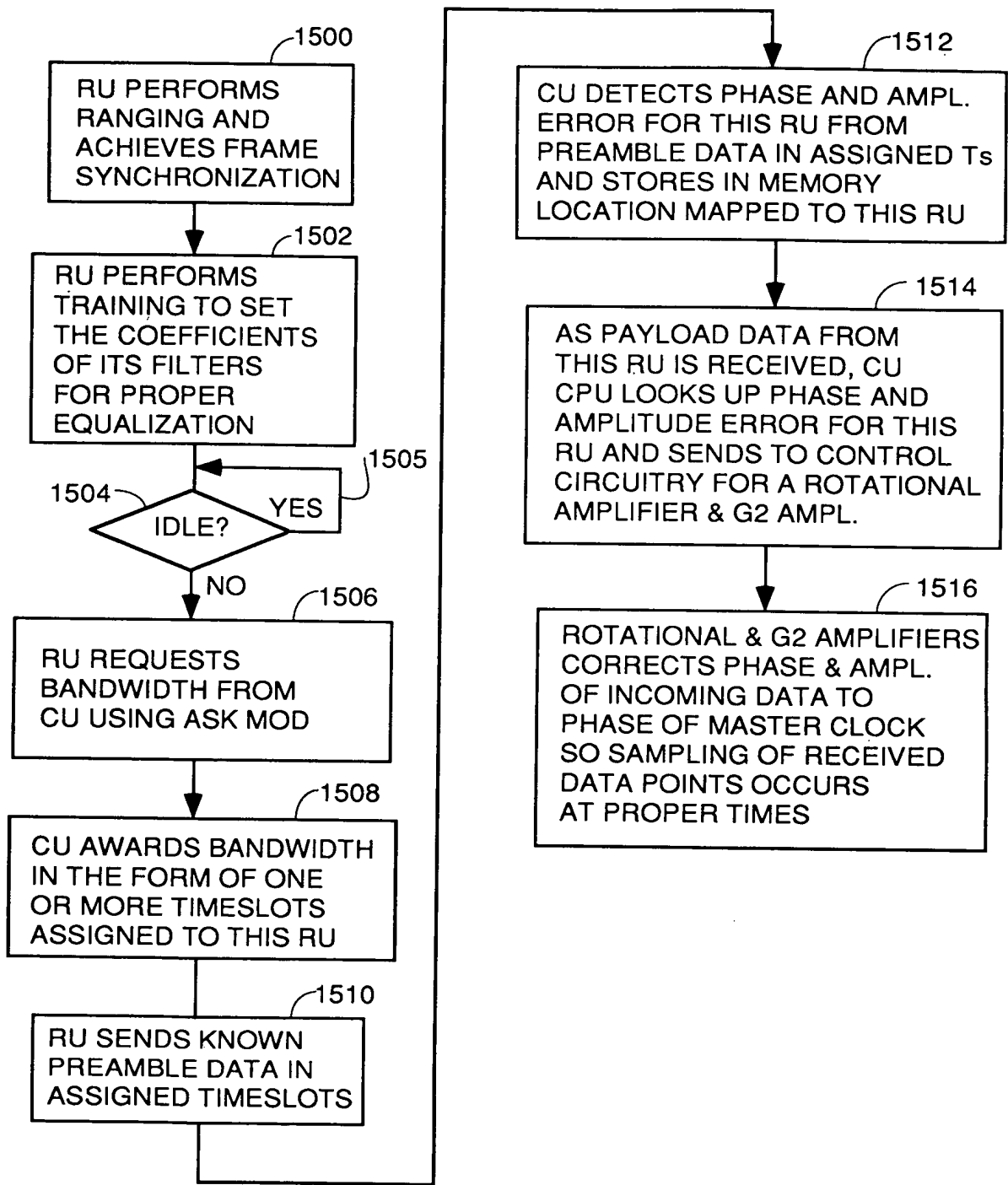
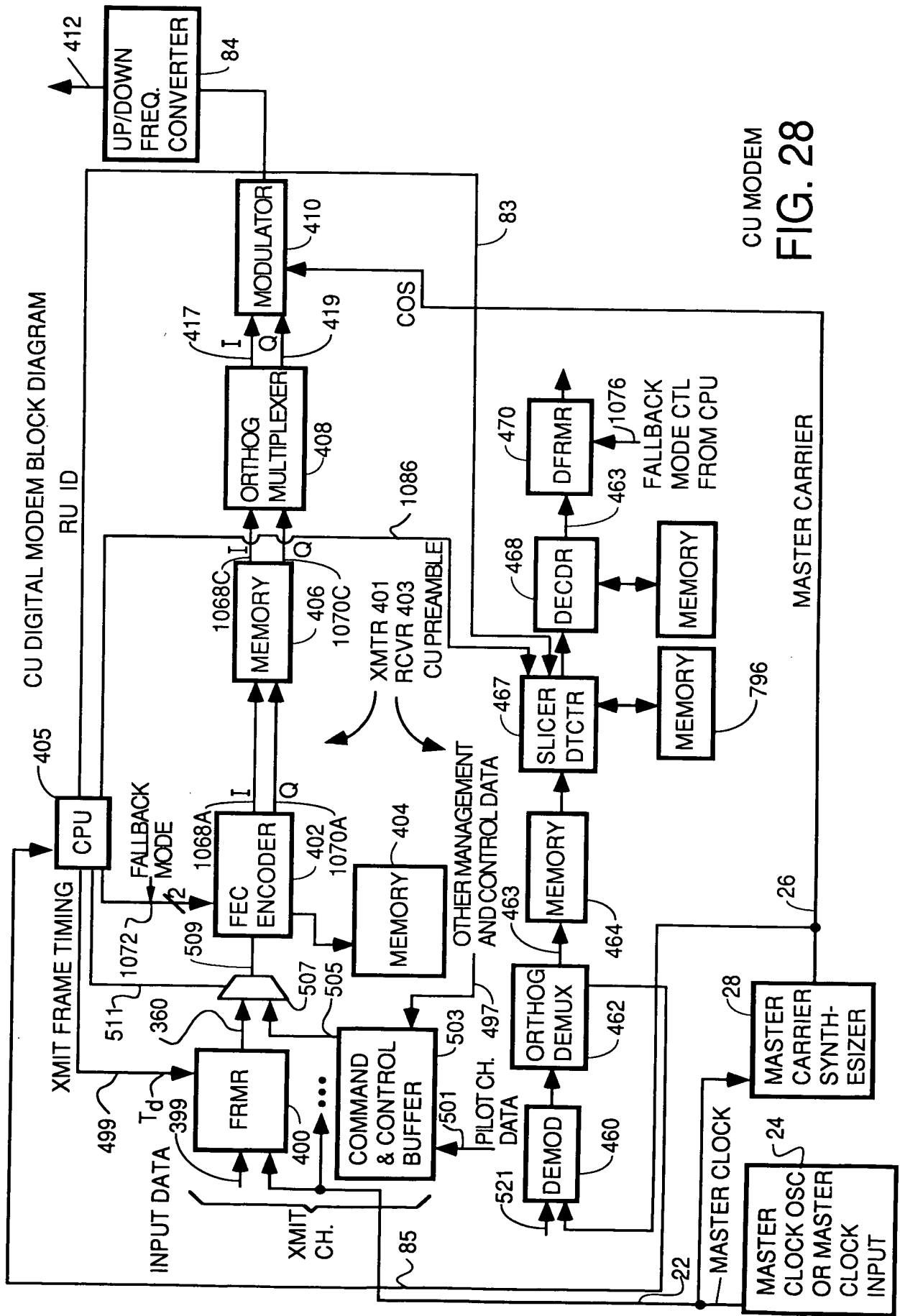


FIG. 27



CU MODEM
FIG. 28

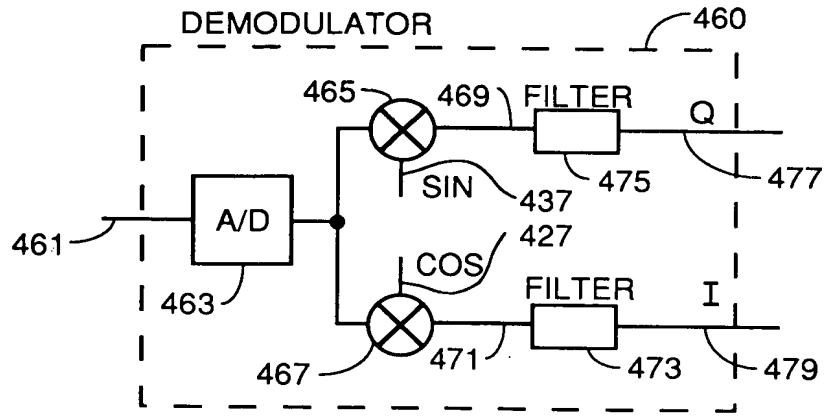


FIG. 29

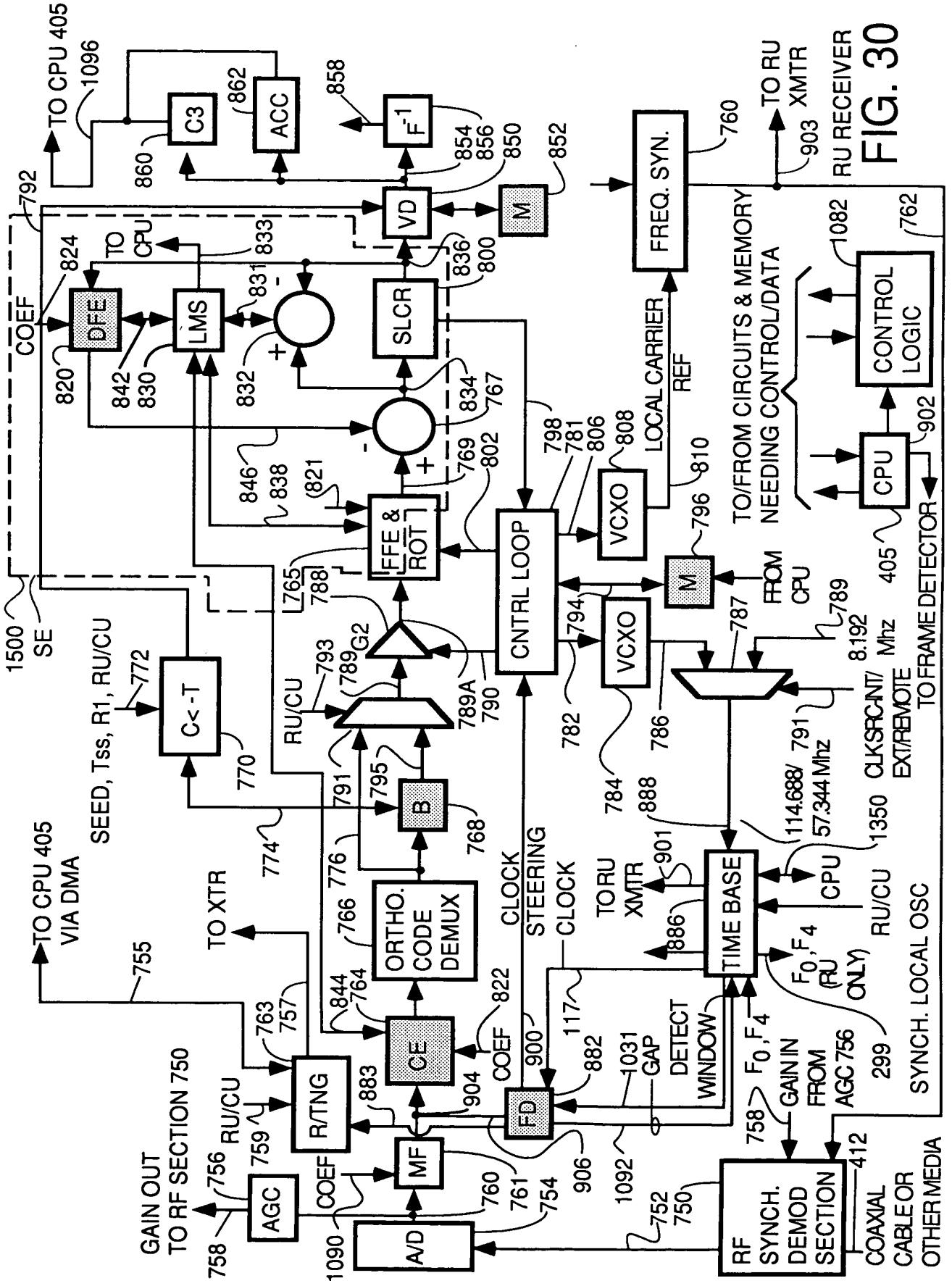
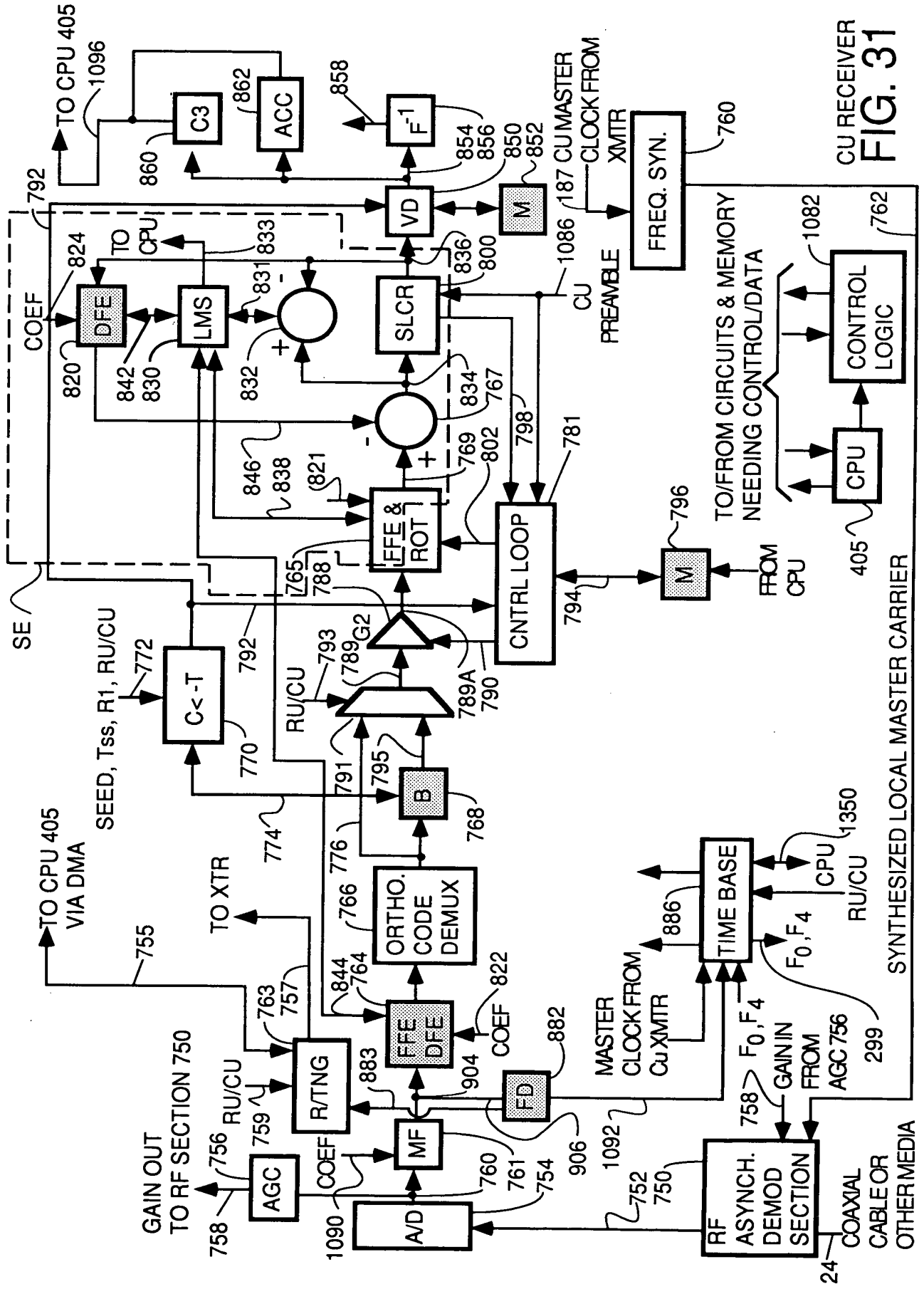
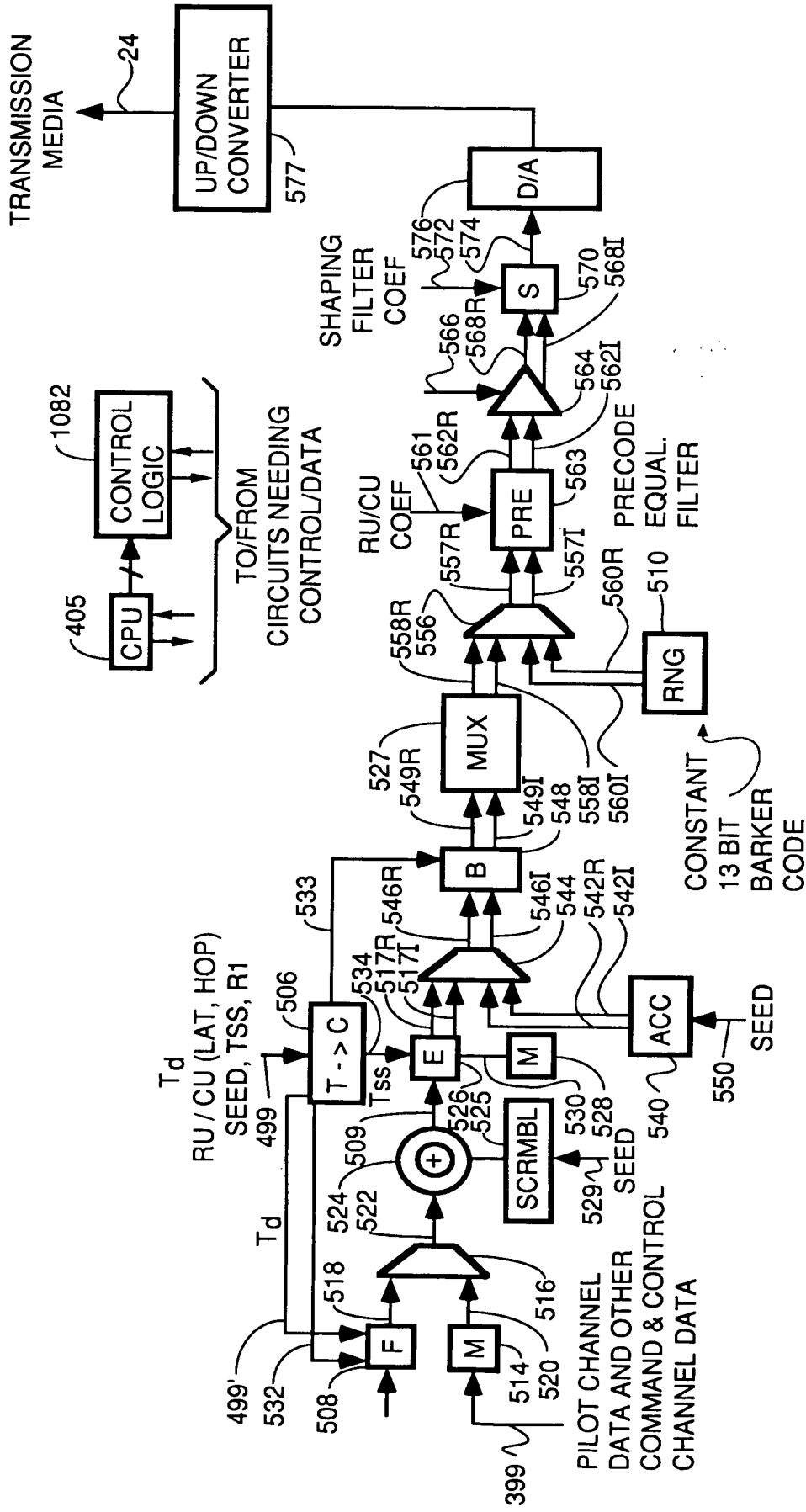


FIG. 30



CU RECEIVER
FIG. 31

SYNTHESIZED LOCAL MASTER CARRIER



CU TRANSMITTER
FIG. 32

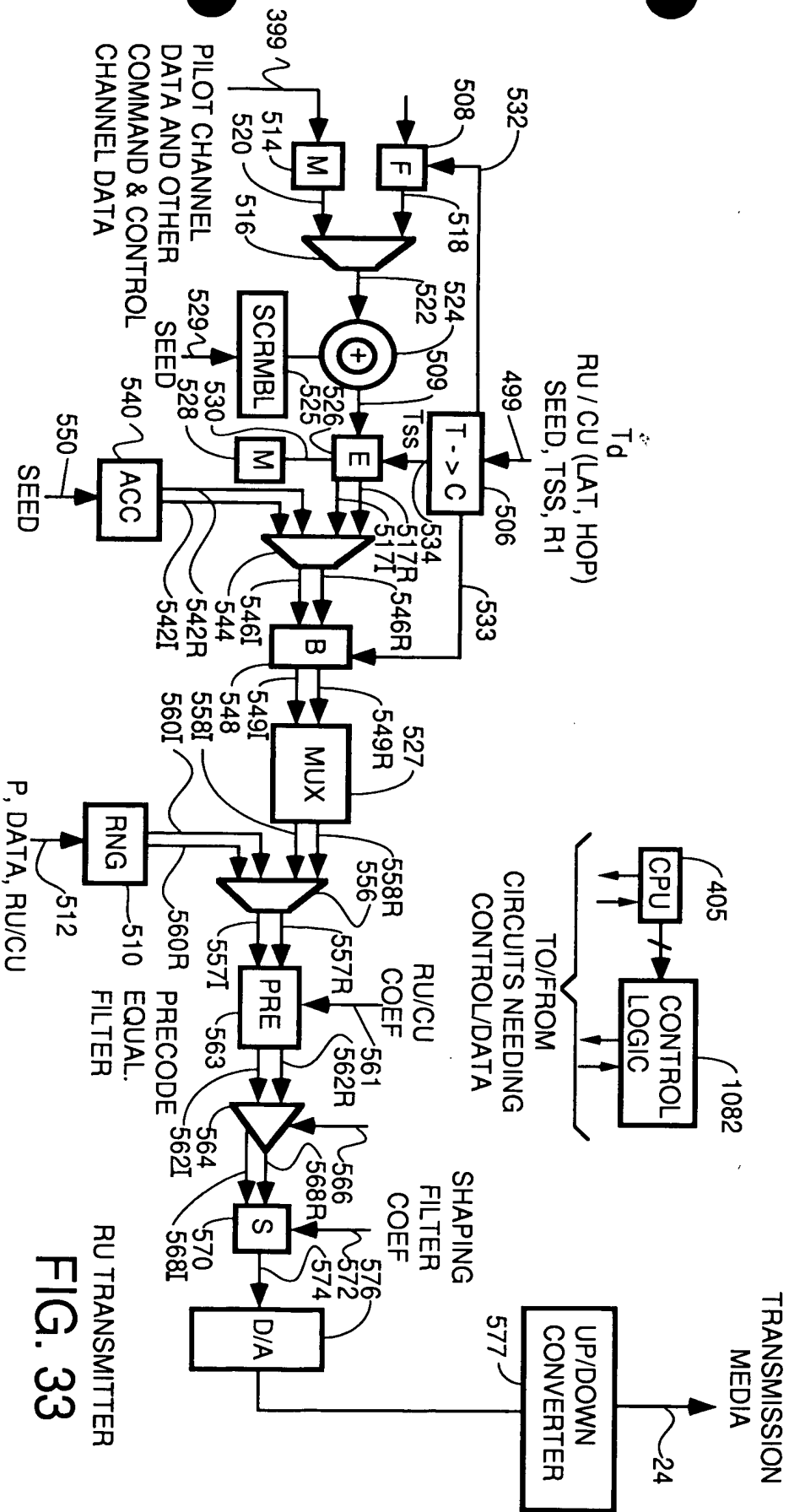


FIG. 33

RU TRANSMITTER

09766229 044204

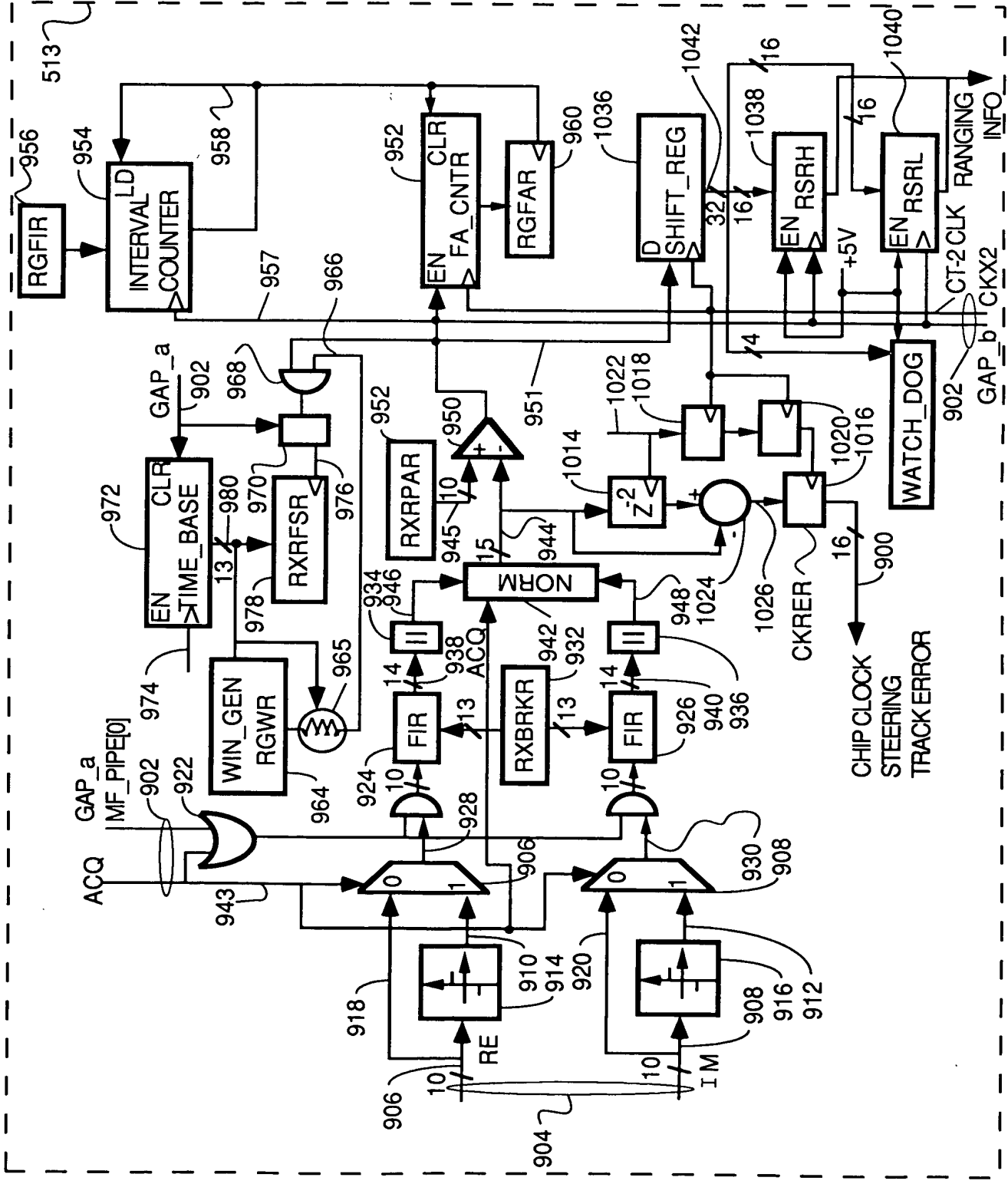


FIG. 34

GAP ACQUISITION TIMING

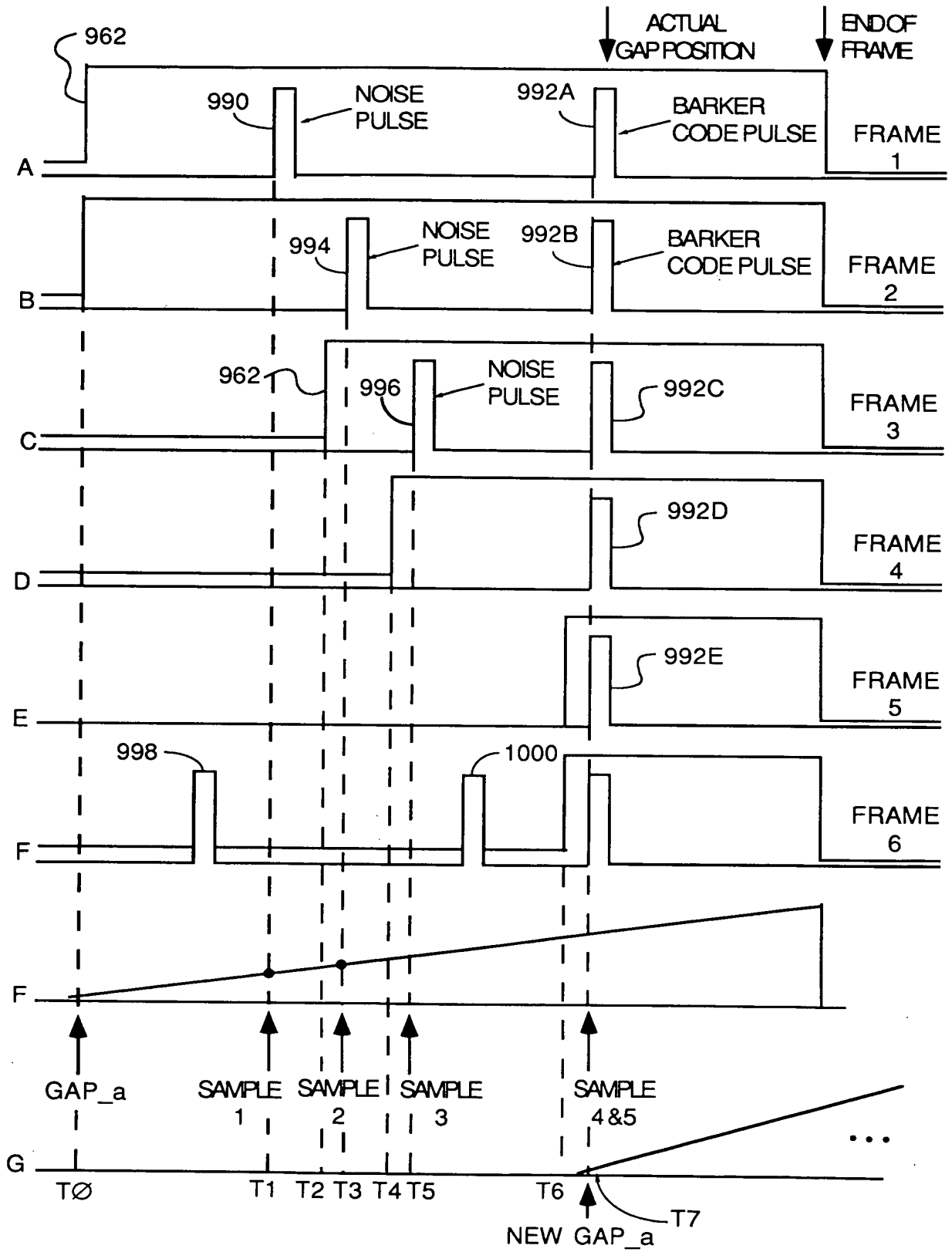


FIG. 35

F00107 6633460

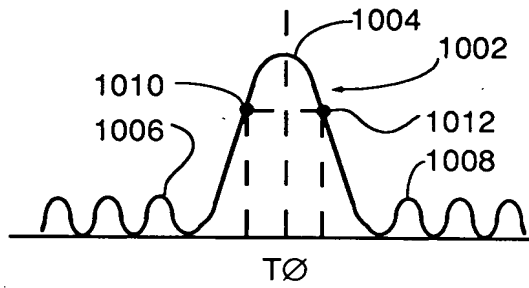


FIG. 36

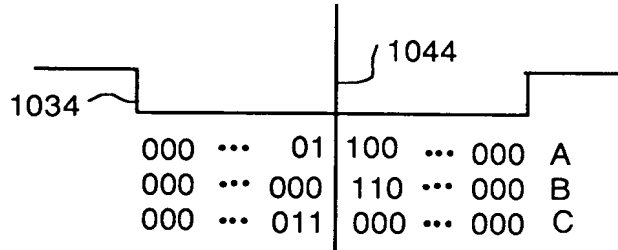


FIG. 37

FINE TUNING TO
CENTER BARKER CODE

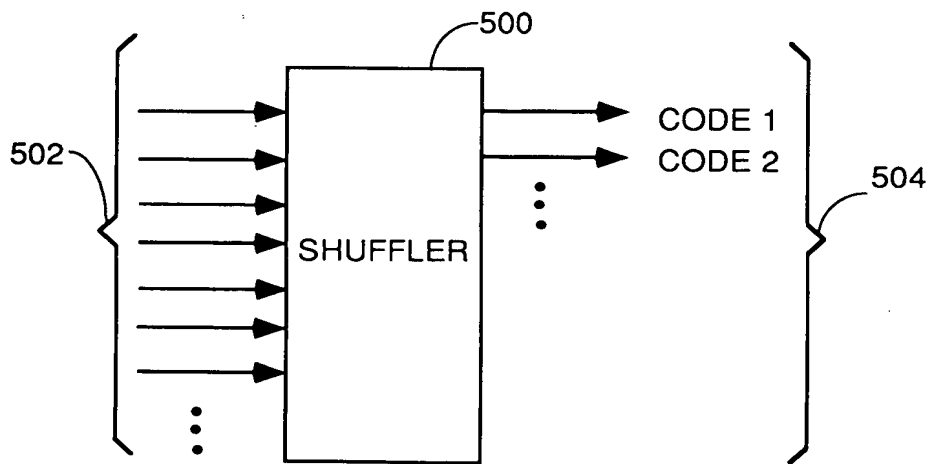


FIG. 38

FIG. 37: FINE TUNING TO CENTER BARKER CODE

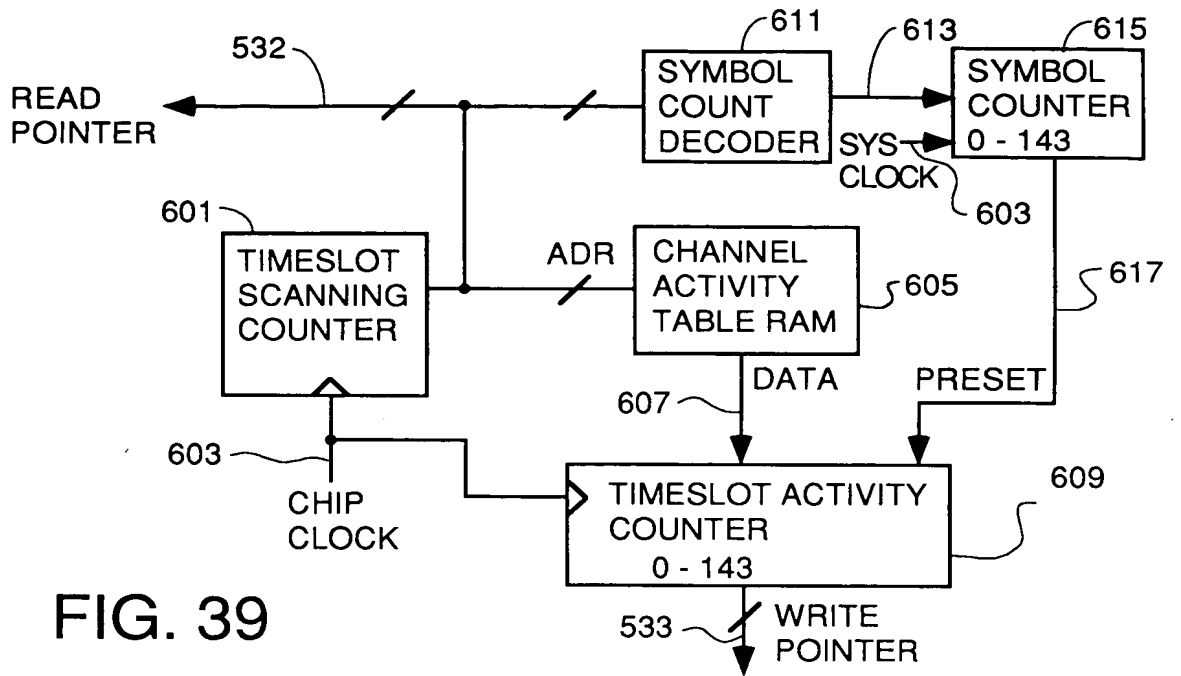


FIG. 39

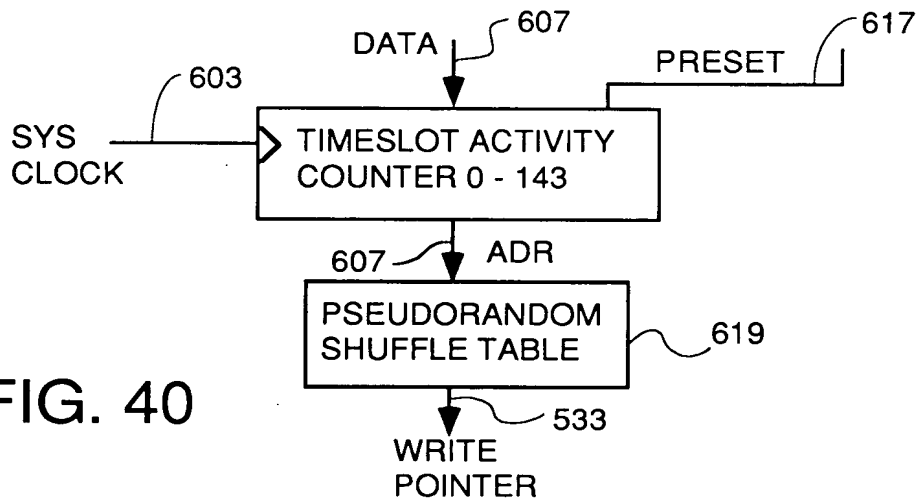


FIG. 40

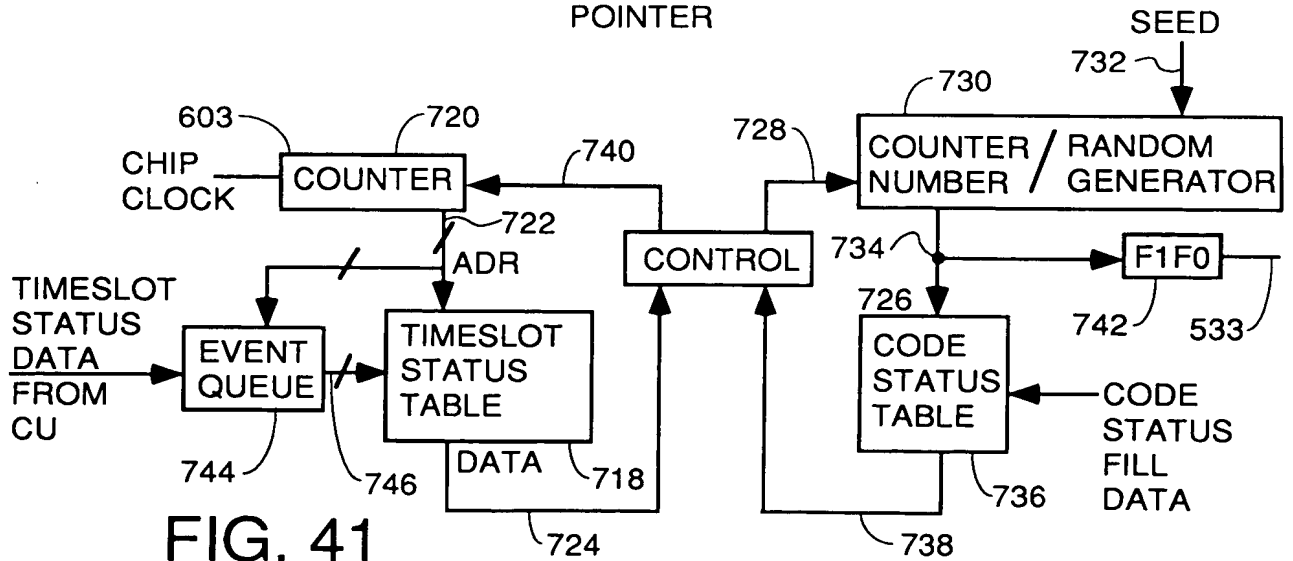
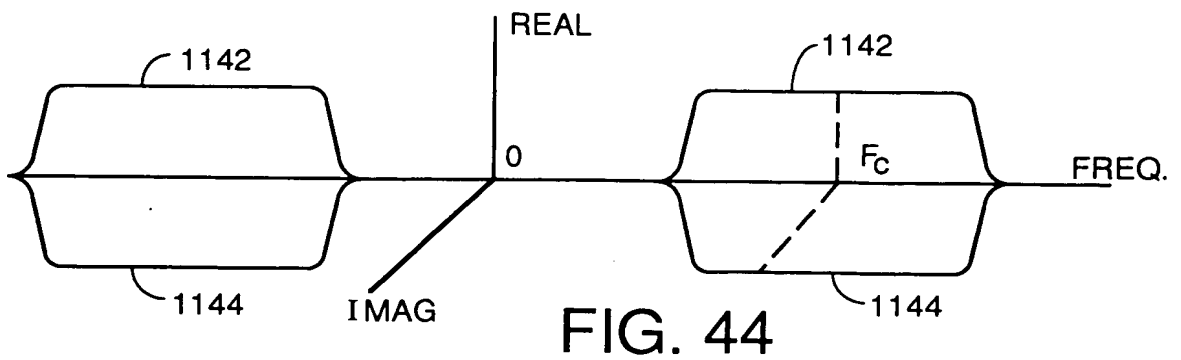
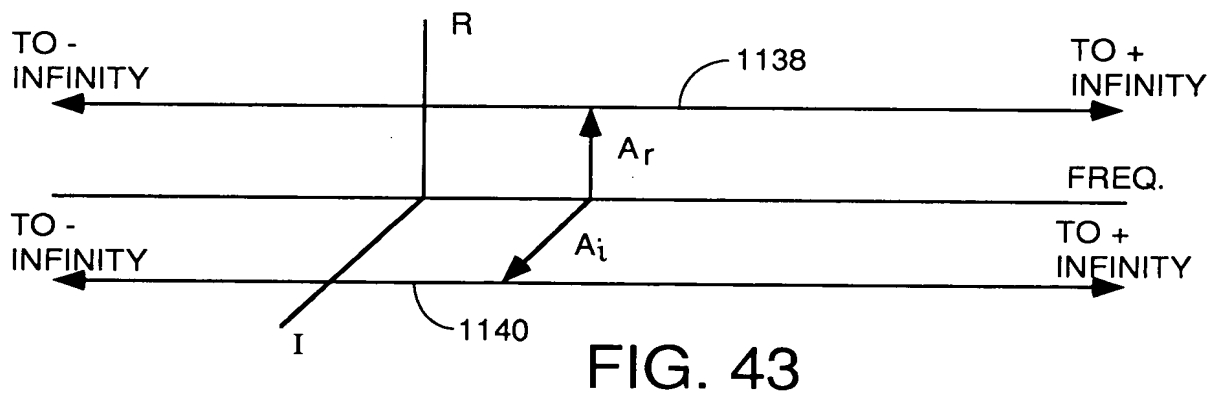
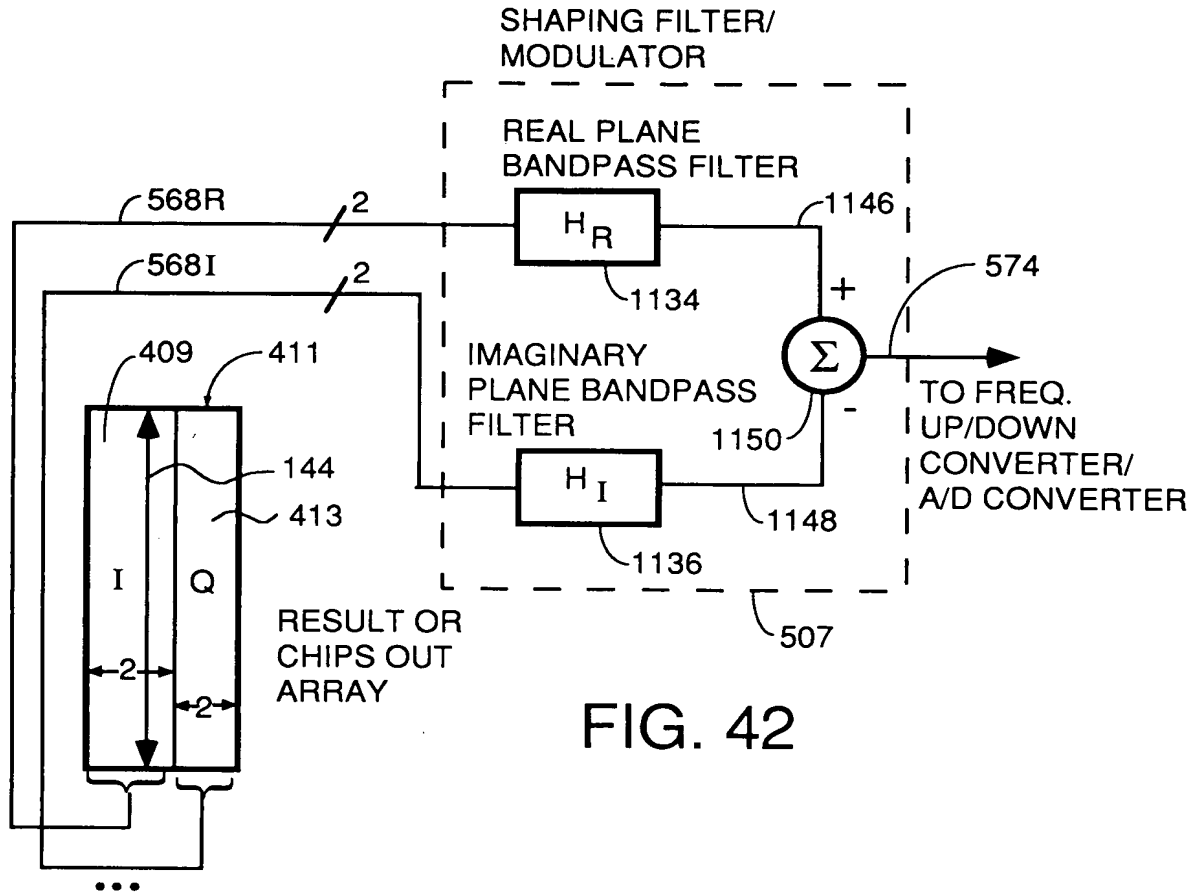


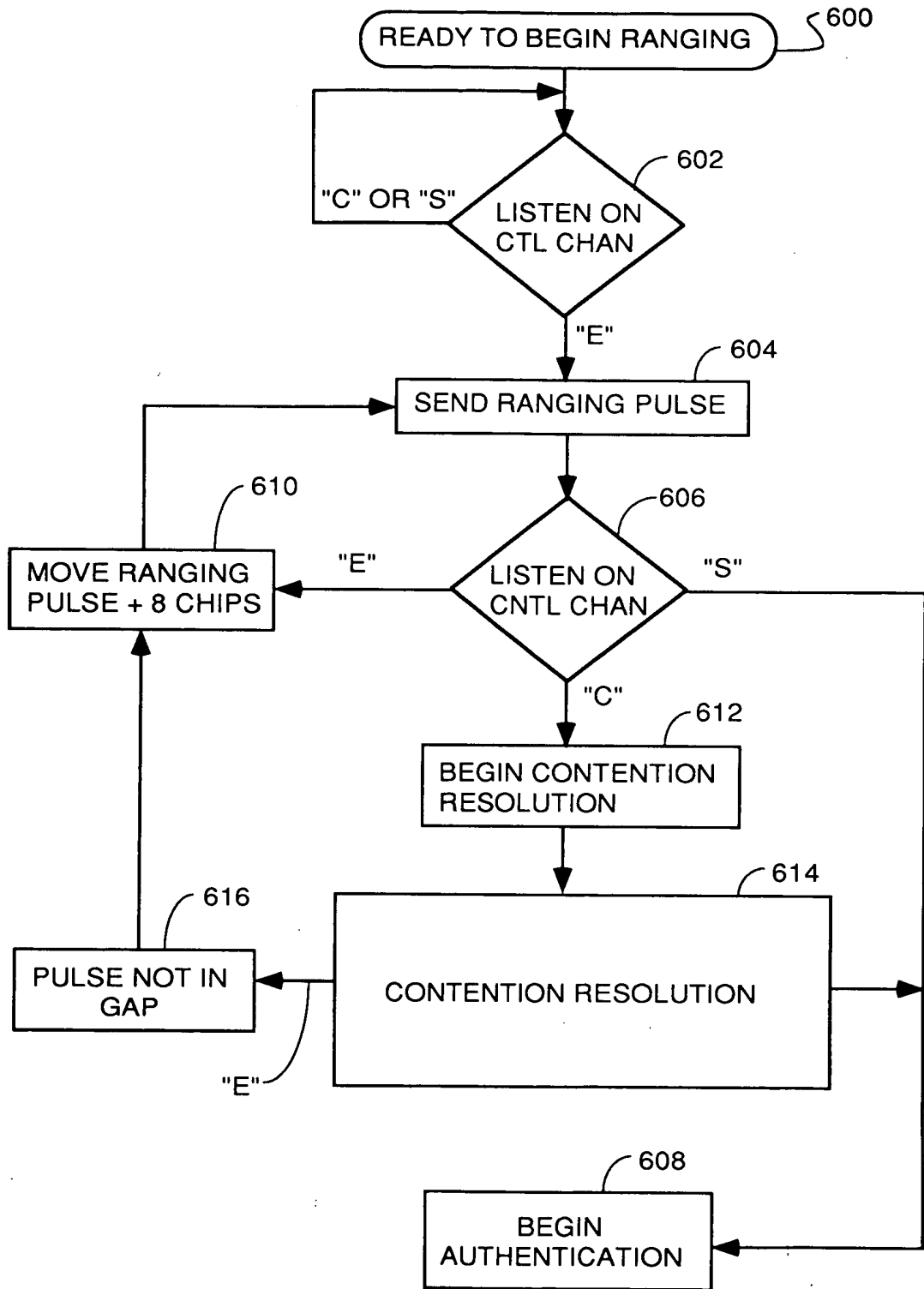
FIG. 41

FIG. 39 603 605 607 609 611 613 615 617 532 533

FIG. 42

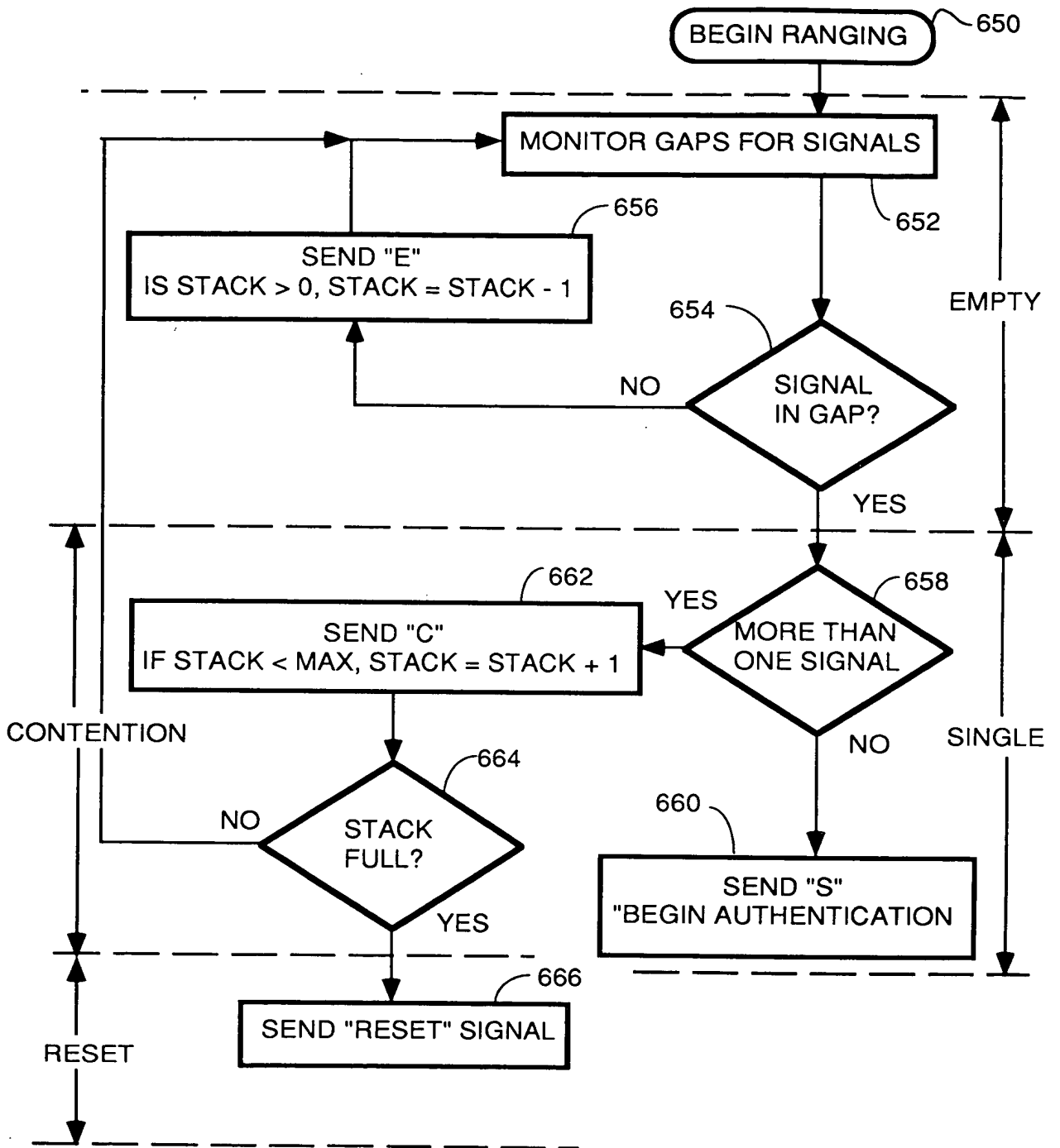


RU RANGING



RU RANGING
FIG. 45

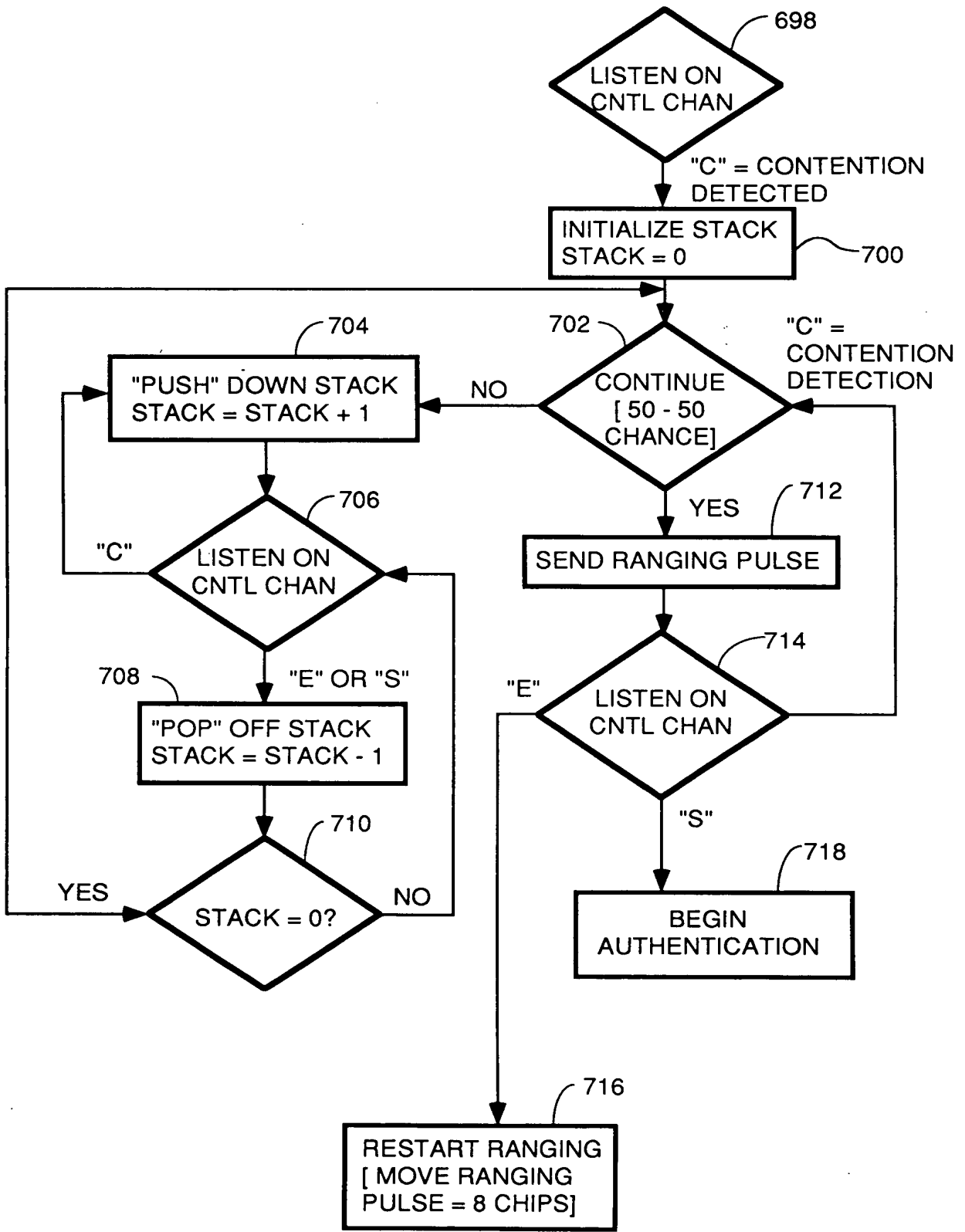
666 664 662 660 658 656 654 652 650



CU RANGING AND CONTENTION RESOLUTION

FIG. 47

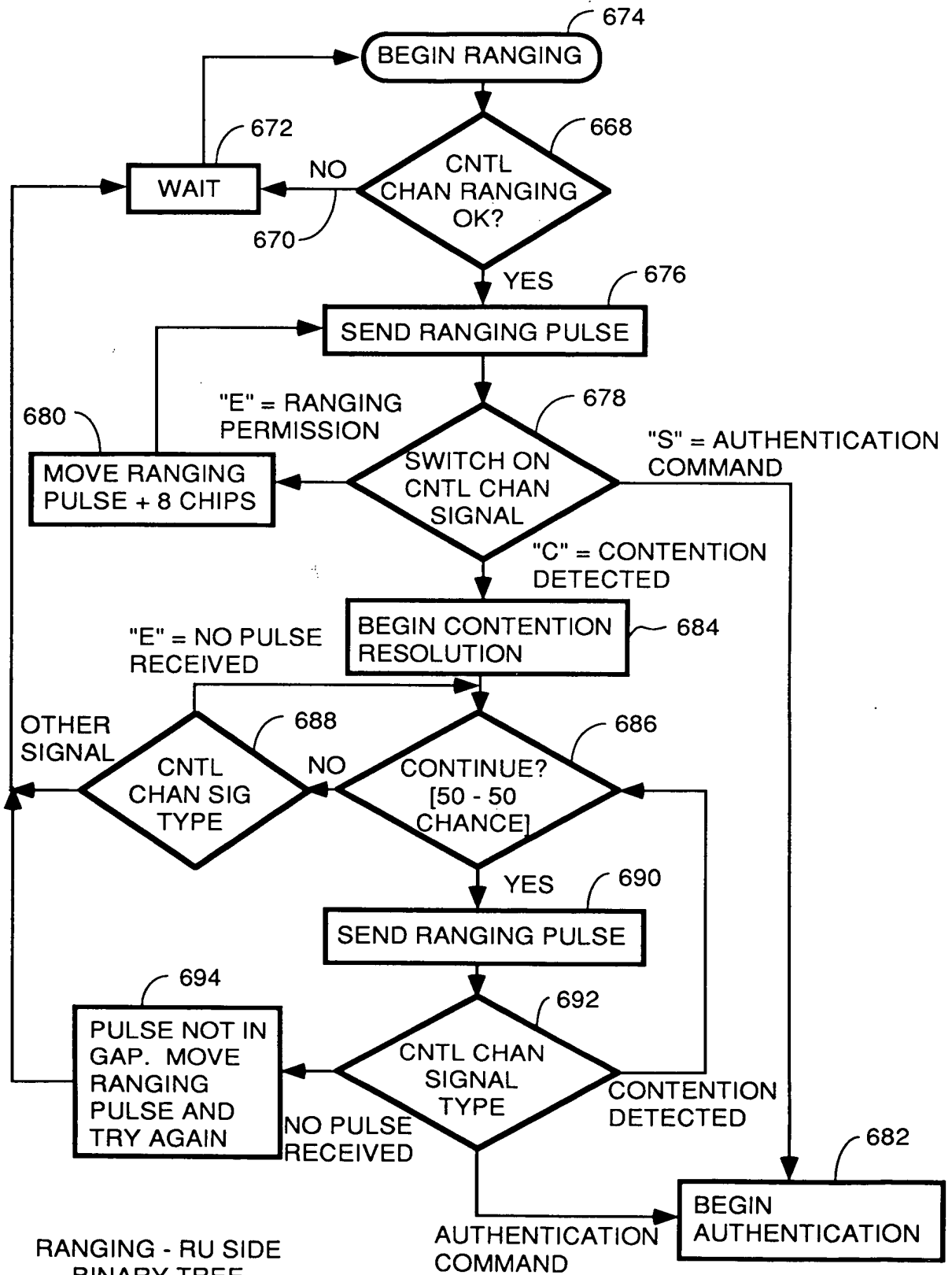
6632200



CONTENTION RESOLUTION - RU
USING BINARY STACK

FIG. 48

402410 000000



RANGING - RU SIDE
BINARY TREE
ALGORITHM

FIG. 49

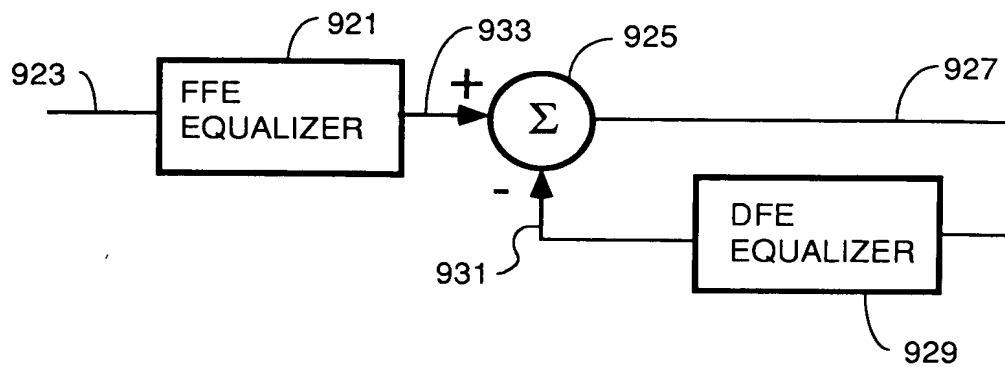


FIG. 50

"Patent" 6633260

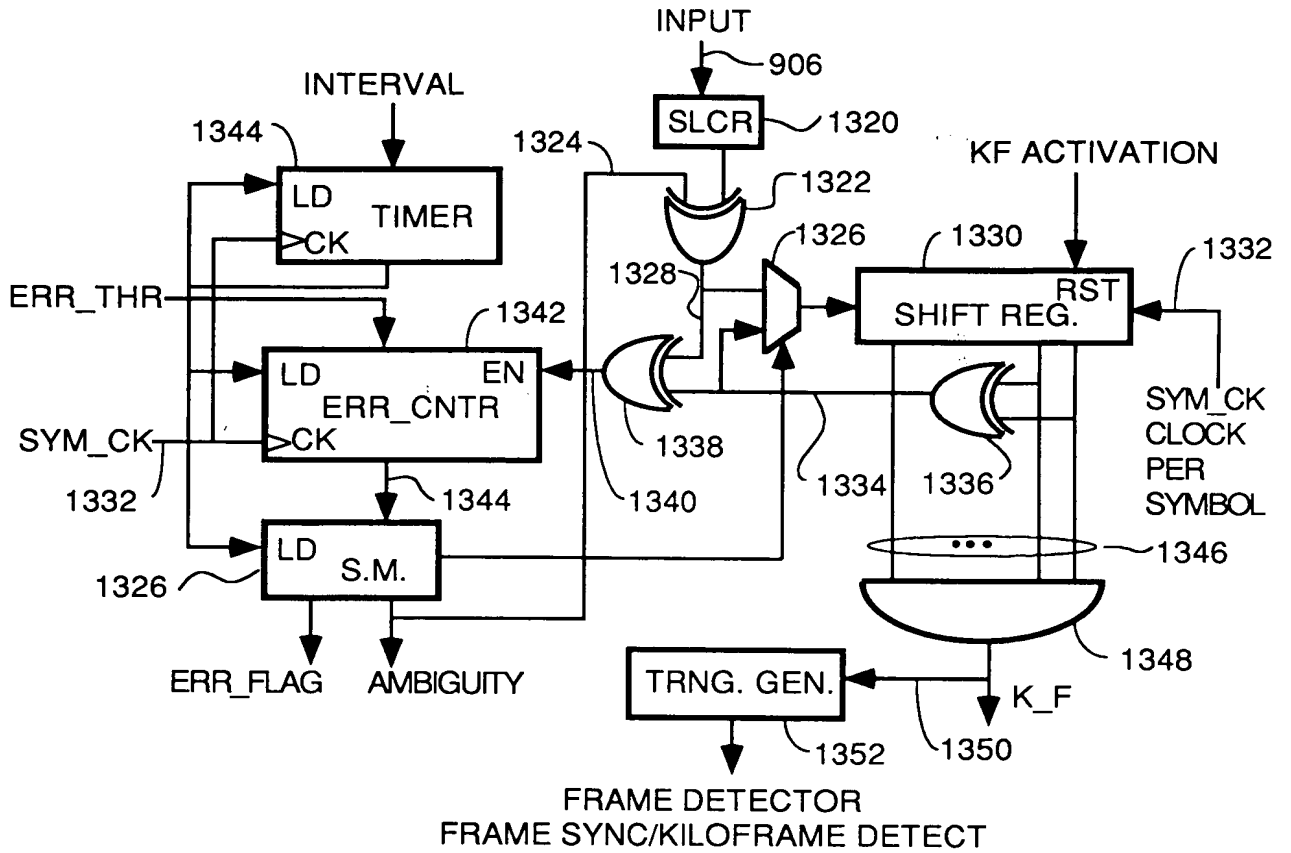
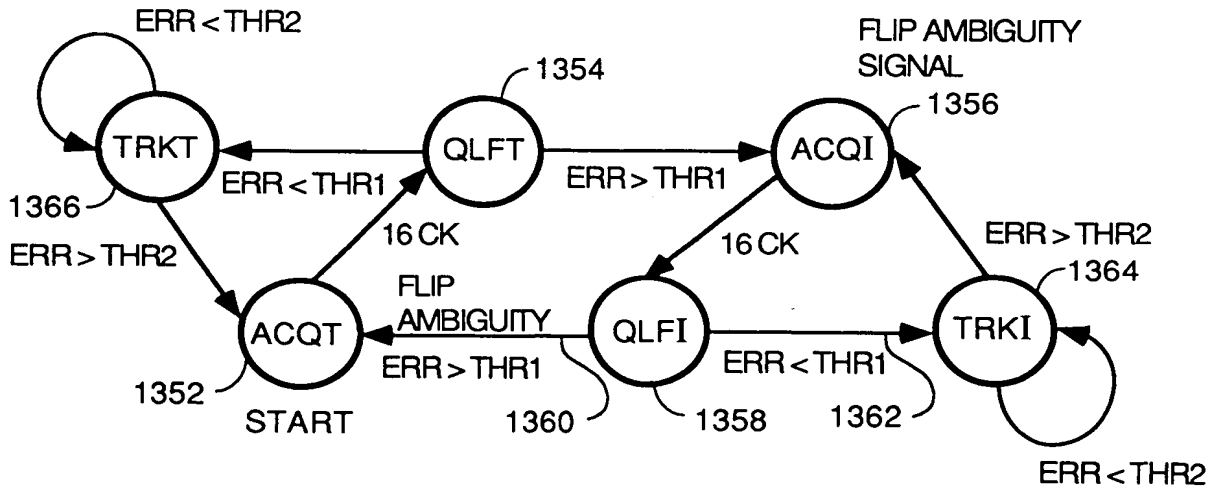


FIG. 51



STATE MACHINE
FIG. 52

PRECHANNEL EQUALIZATION
TRAINING ALGORITHM

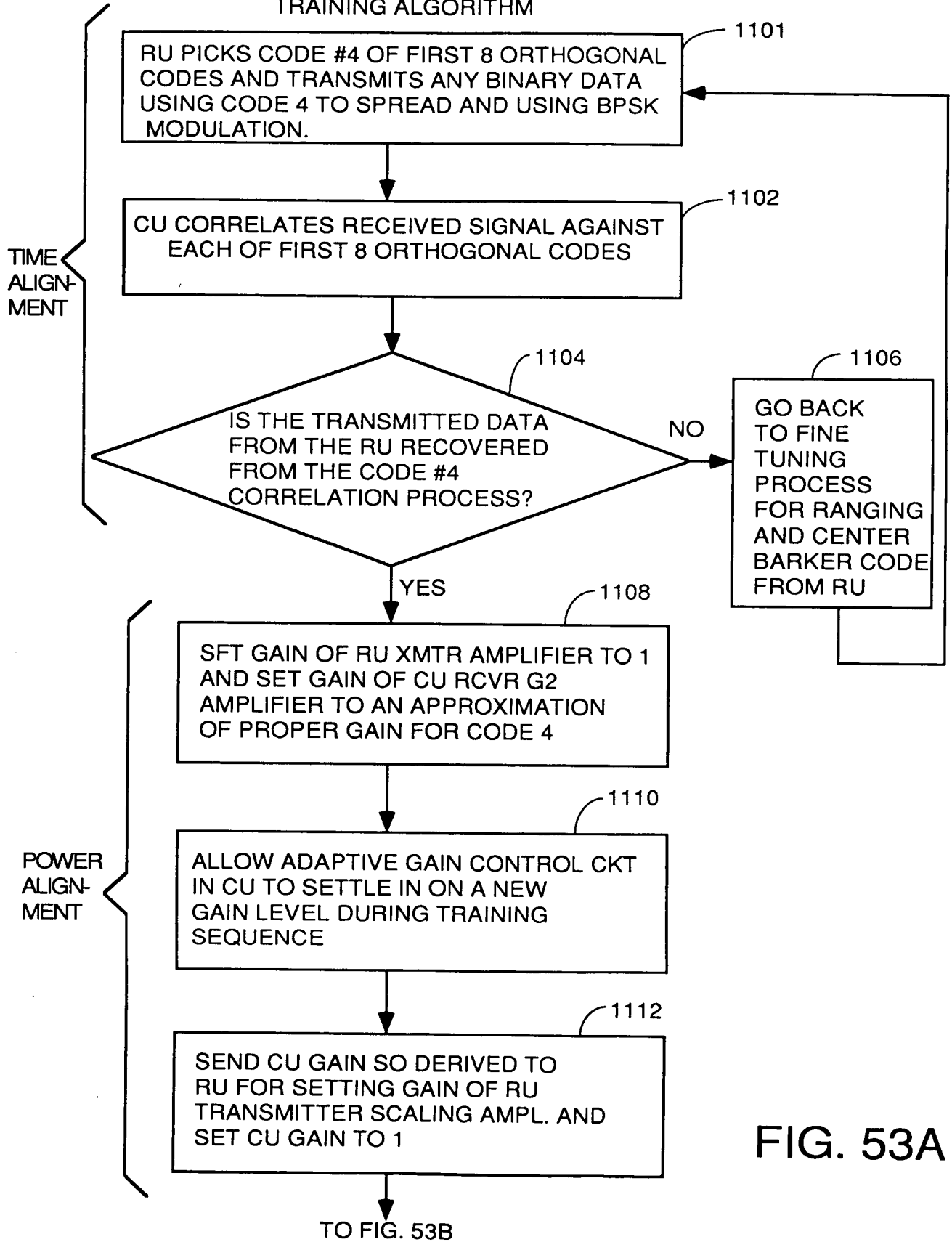


FIG. 53A

FIG. 53B

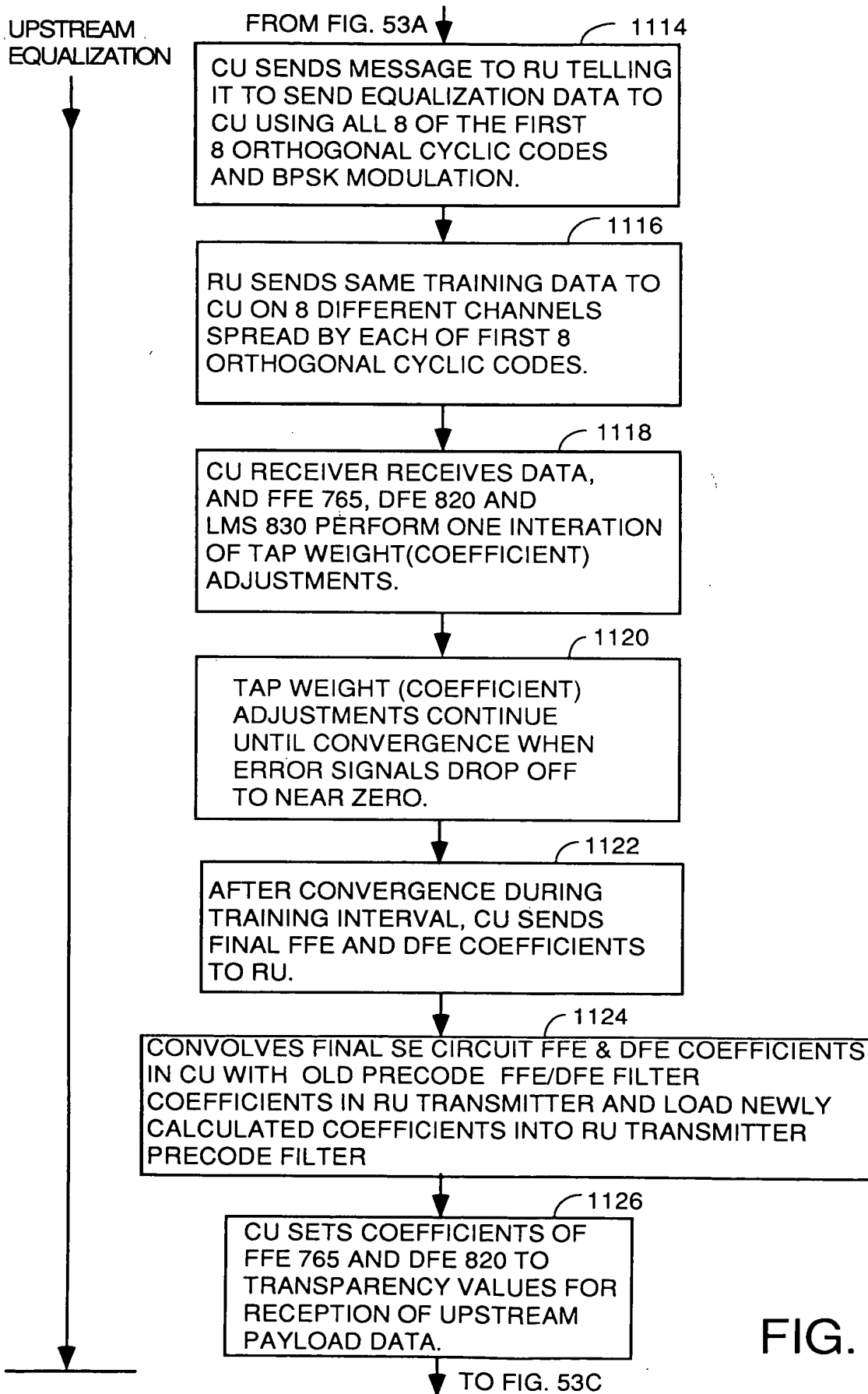


FIG. 53B

DOWNSTREAM
EQUALIZATION

FROM FIG. 53B

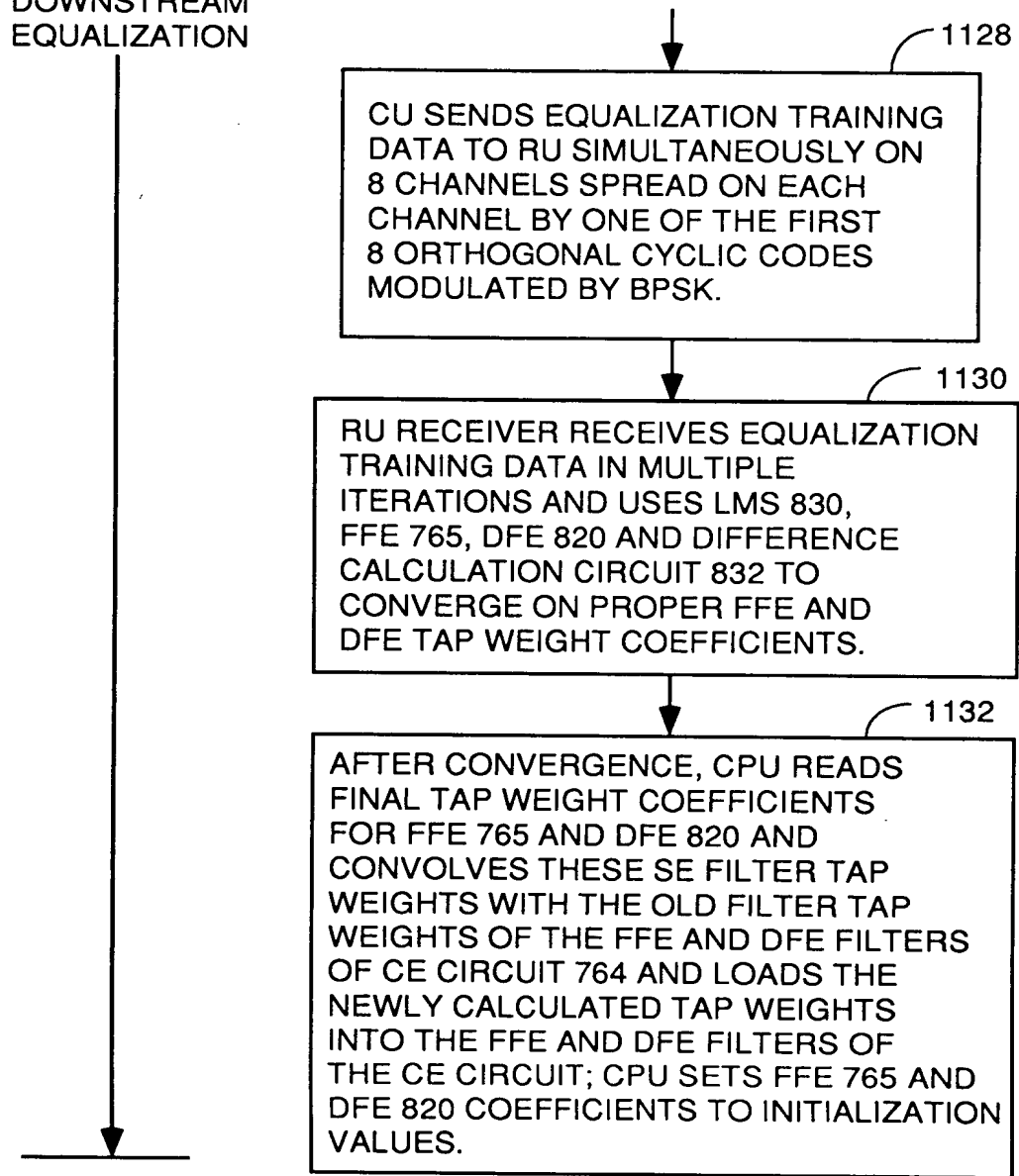


FIG. 53C

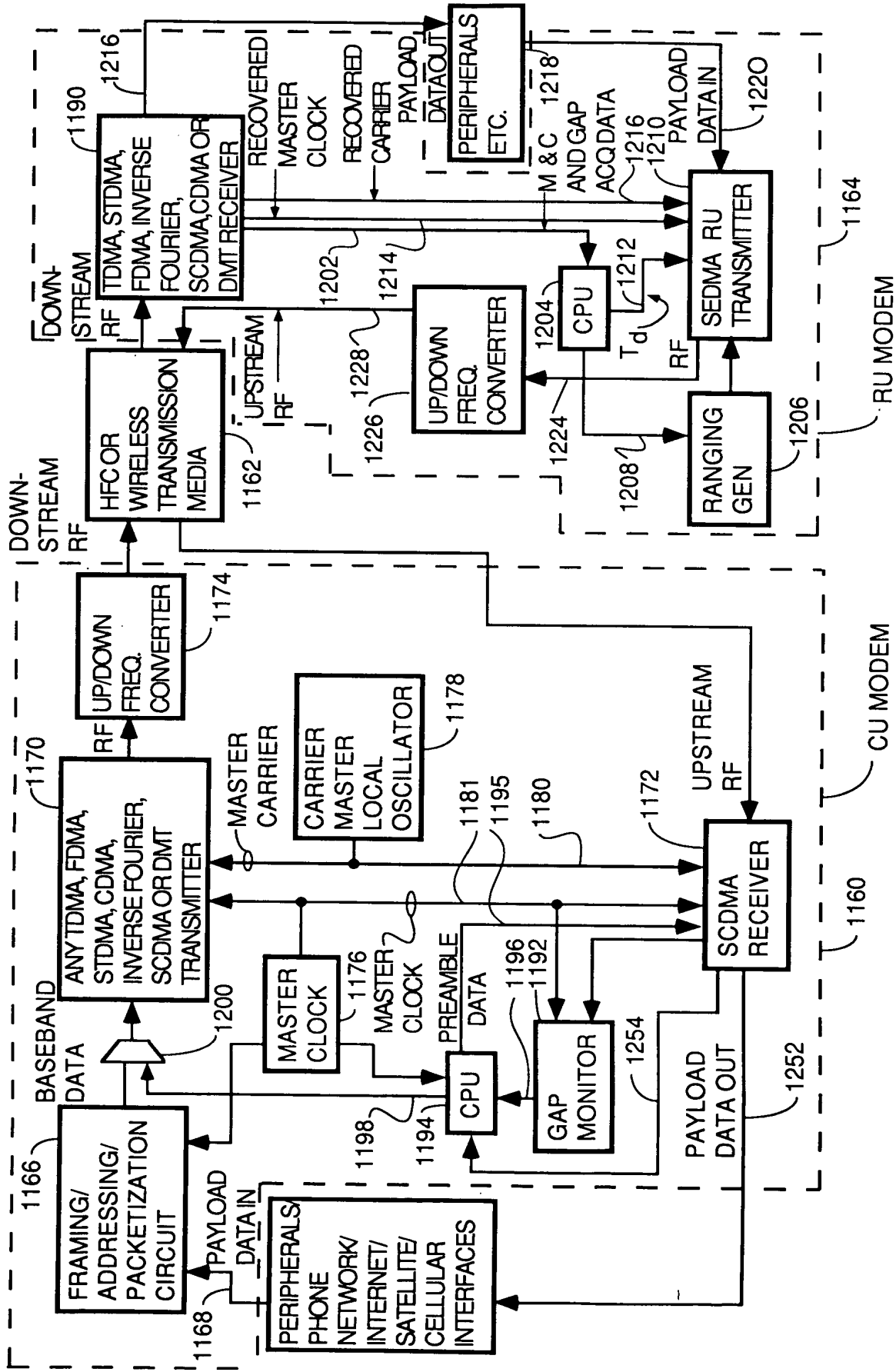
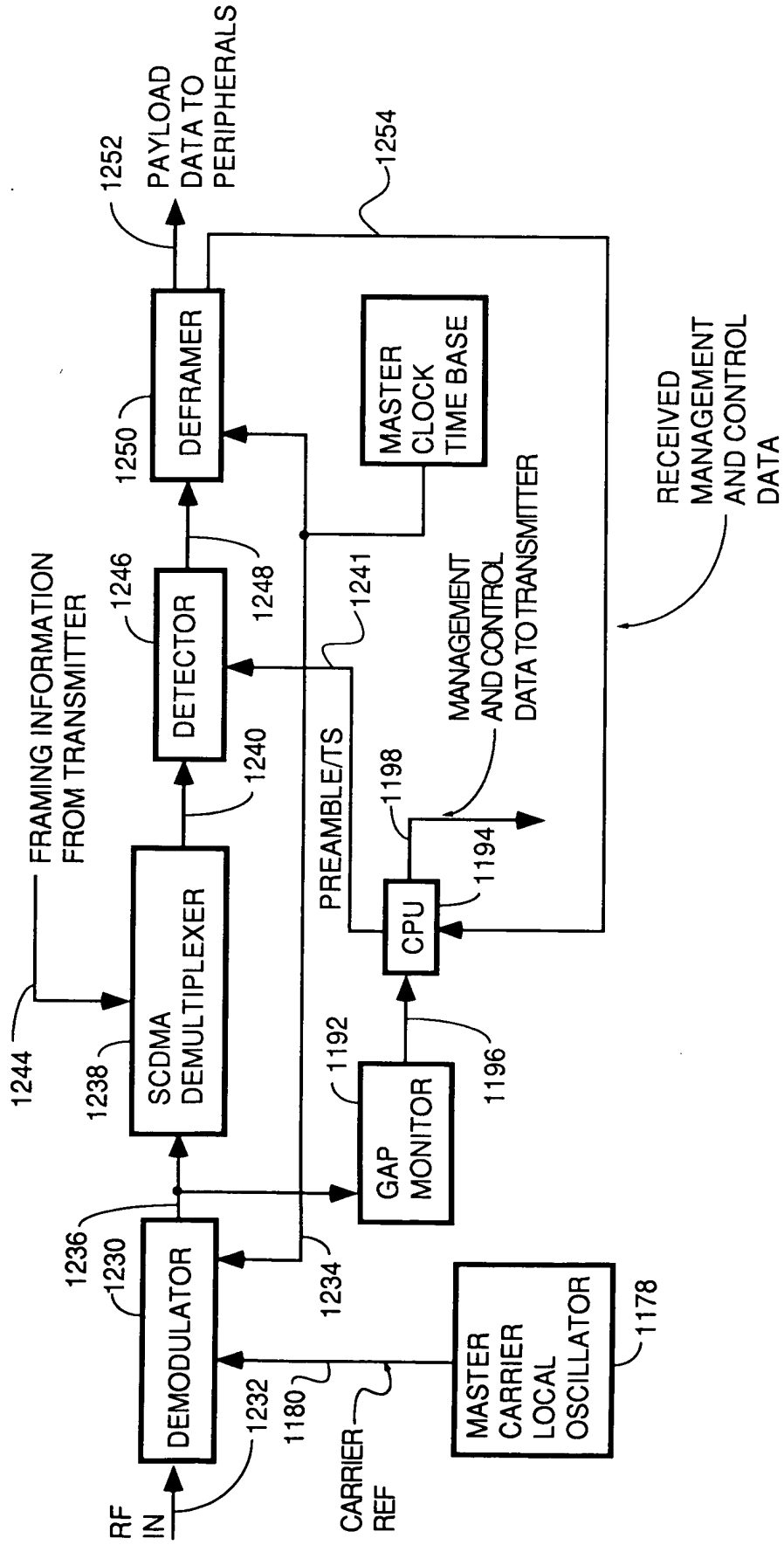
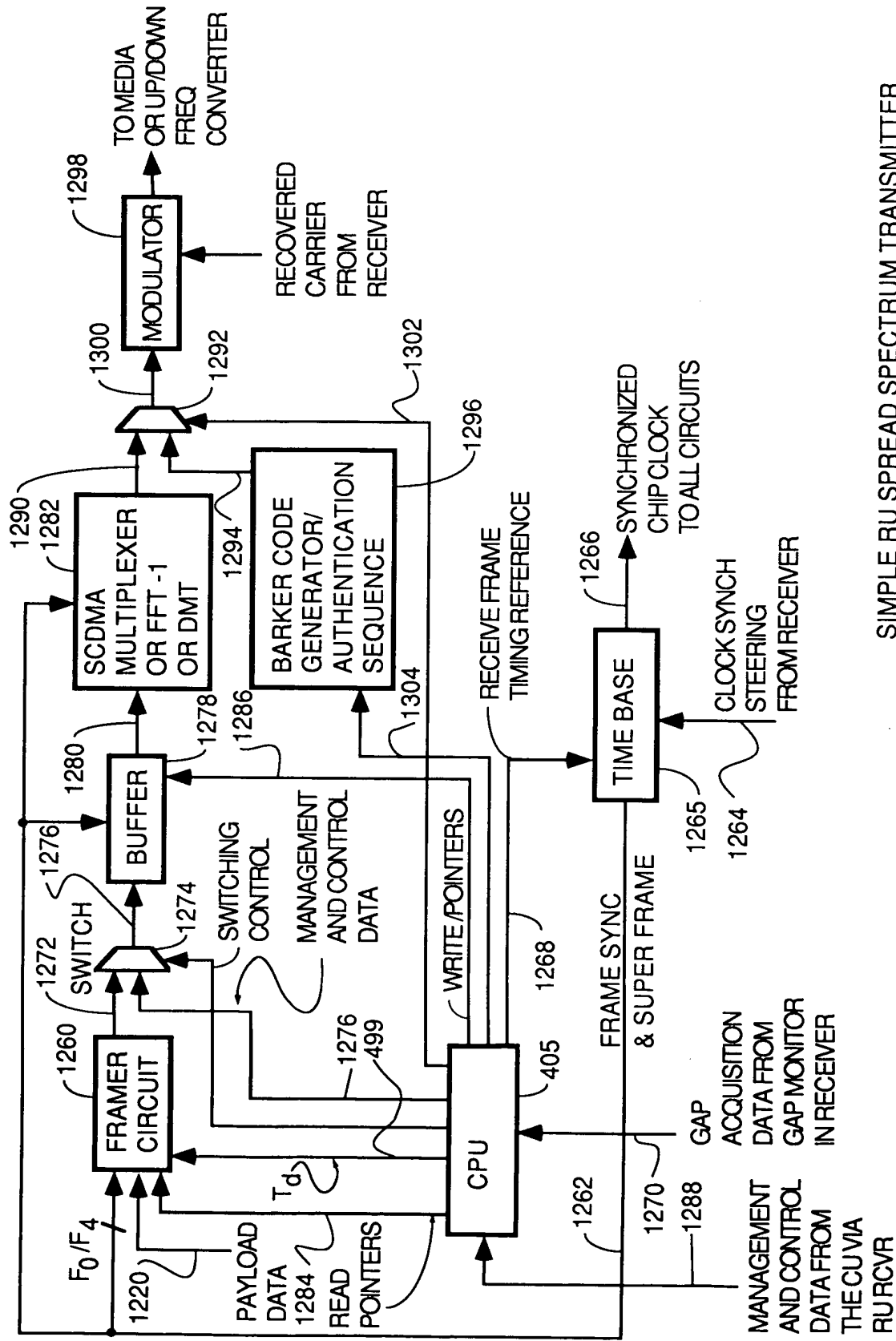


FIG. 54



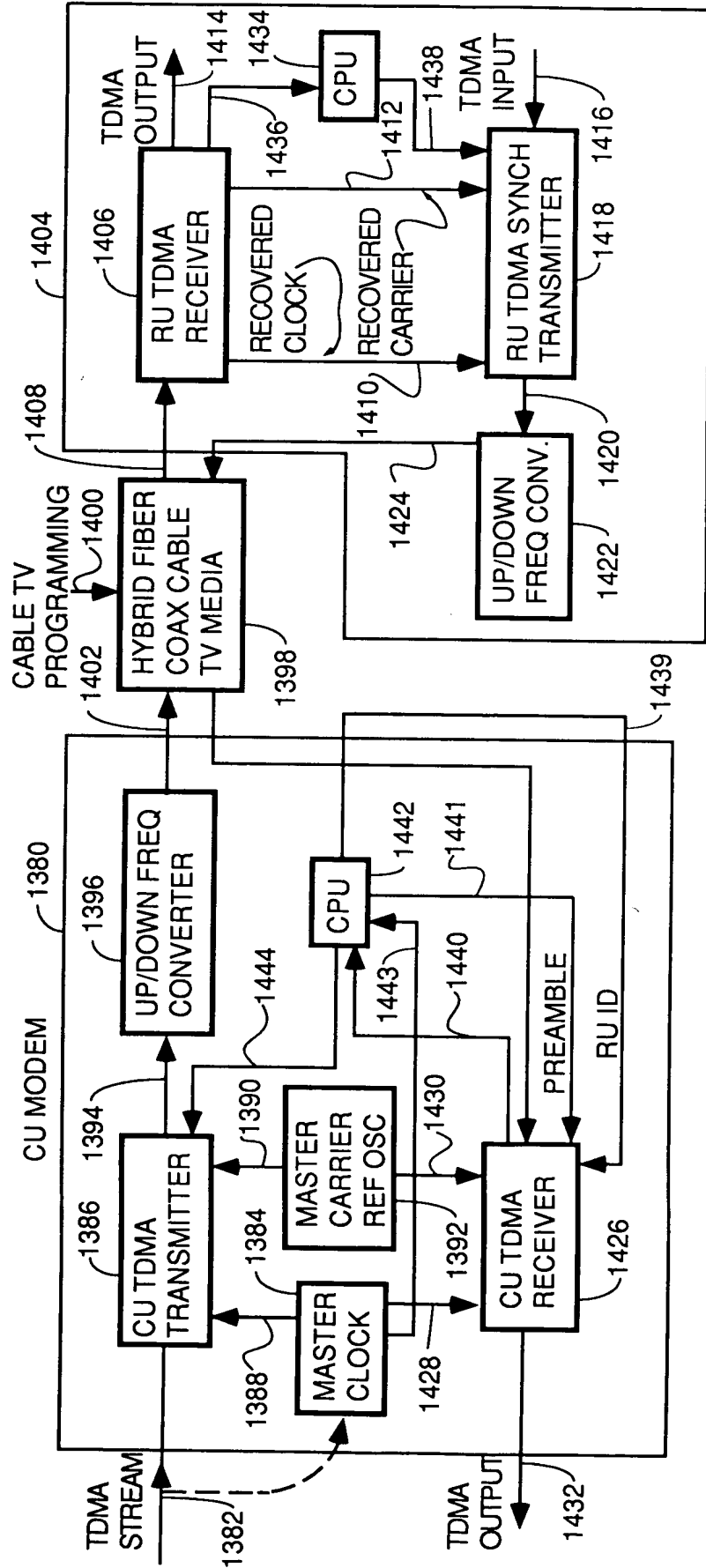
SIMPLE CU SPREAD SPECTRUM RECEIVER

FIG. 55



SIMPLE RU SPREAD SPECTRUM TRANSMITTER

FIG. 56



SYNCHRONOUS TDMA SYSTEM

FIG. 57

FIG. 58

OFFSET (CHIPS)	1B ASIC		2A ASIC	
	RGSRH	RGSRL	RGSRH	RGSRL
0	0x0000	0x8000	0x0001	0x0000
1/2	0x0000	0xC000	0x0001	0x8000
1	0x0000	0x4000	0x0000	0x8000
-1	0x0001	0x0000	0x0002	0x0000

FIG. 58

TRAINING ALGORITHM

SE FUNCTION

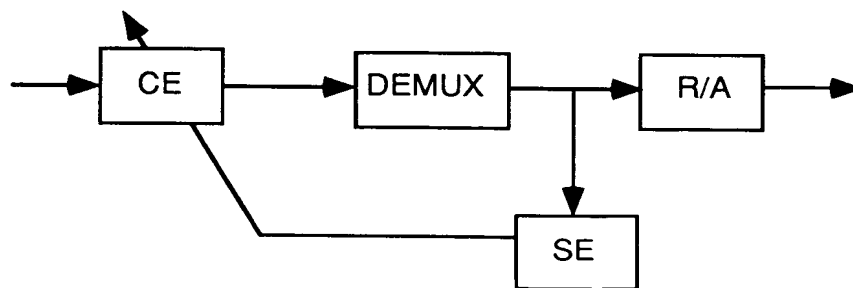
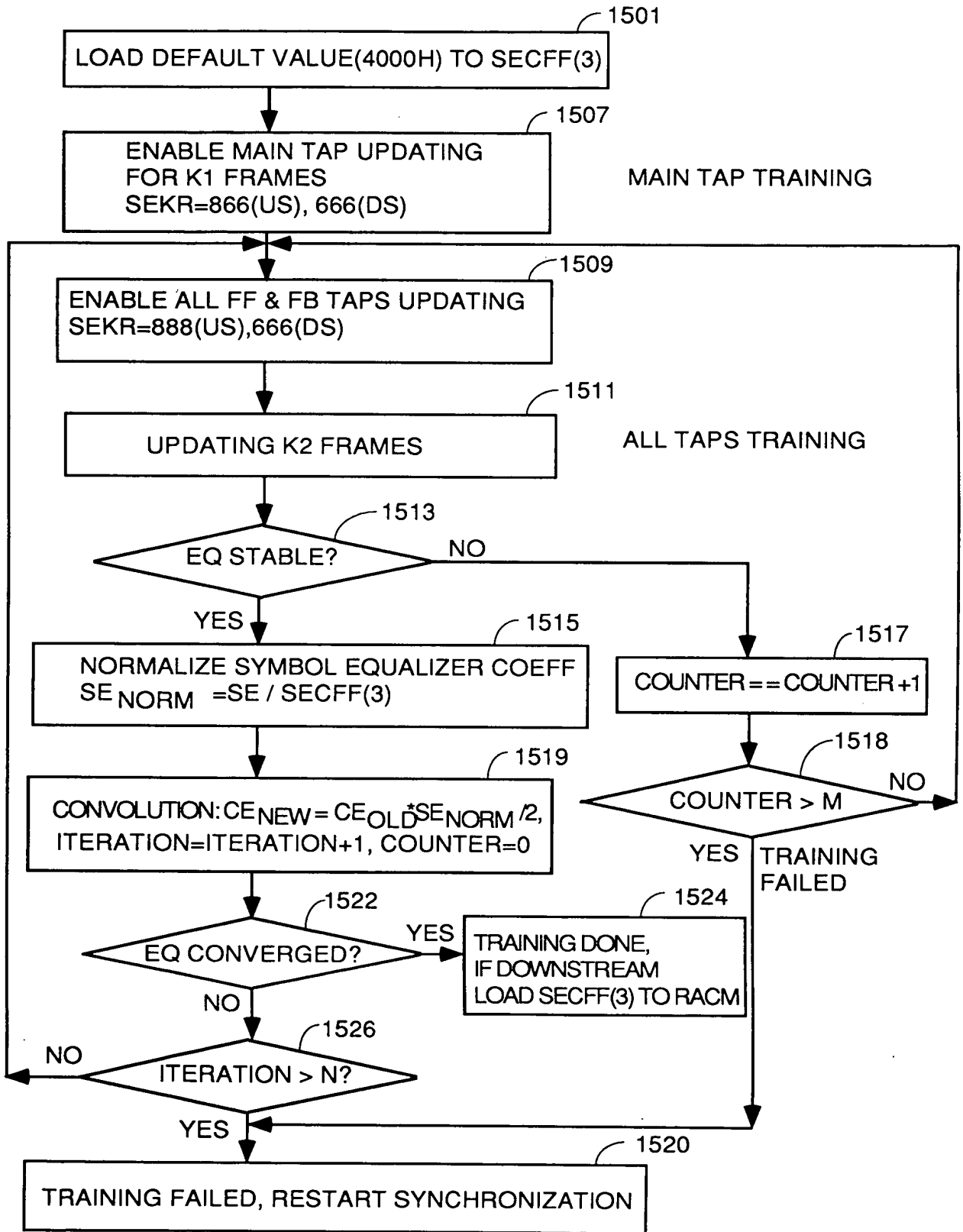


FIG. 59

INITIAL 2-STEP TRAINING ALGORITHM

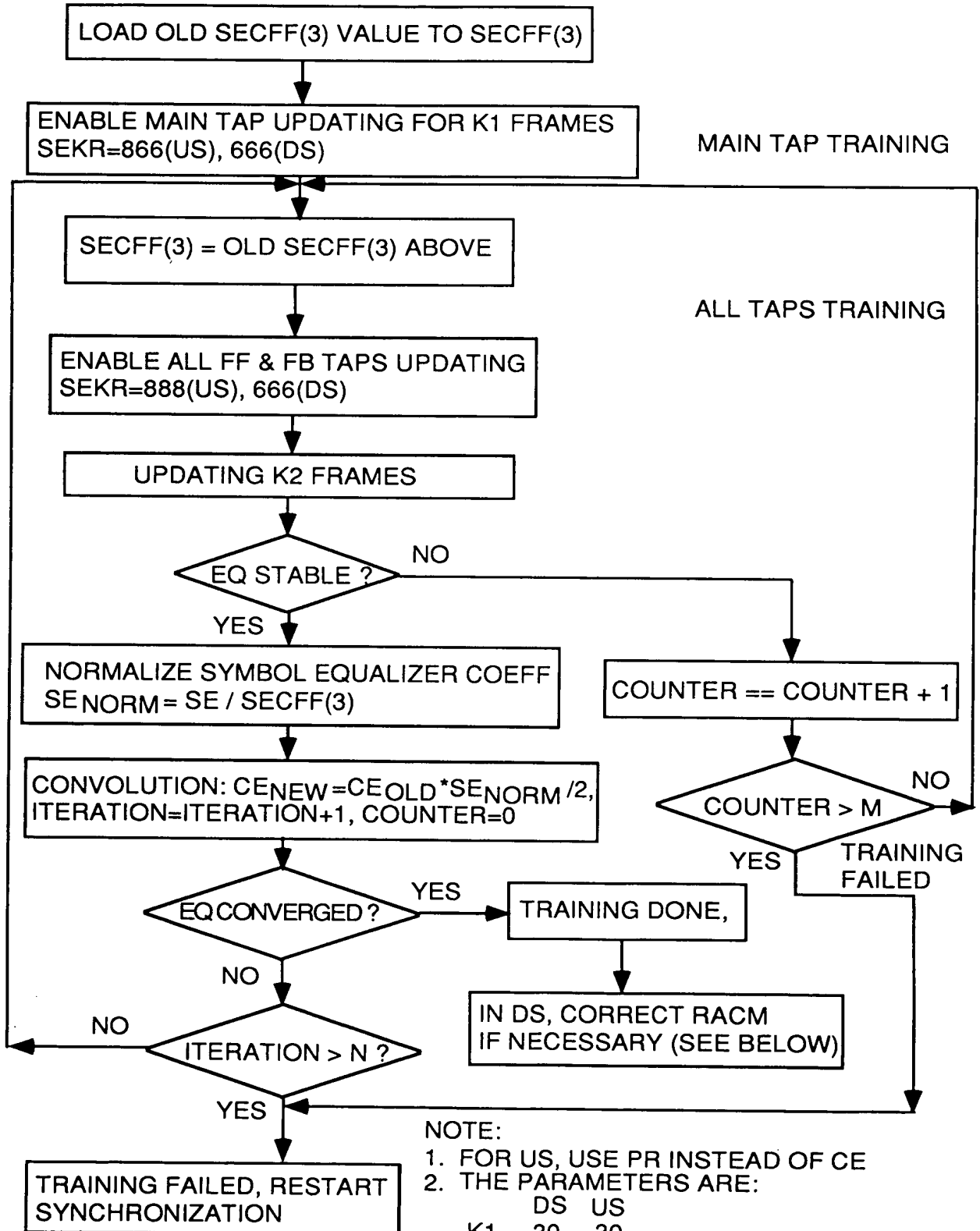


2-STEP INITIAL EQUALIZATION TRAINING

FIG. 60

F06F00"0225/00

PERIODIC 2-STEP TRAINING ALGORITHM



NOTE:

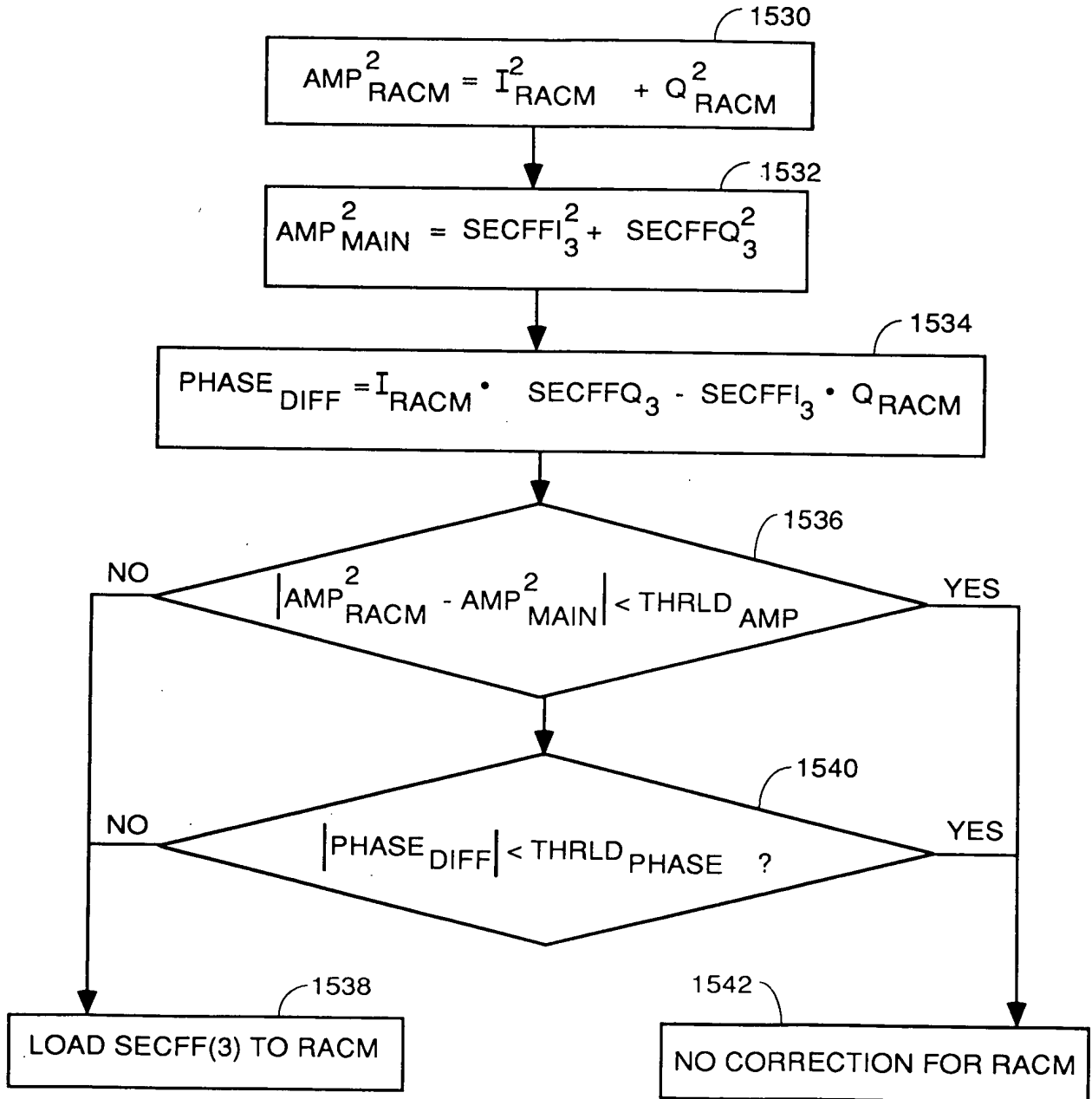
1. FOR US, USE PR INSTEAD OF CE
2. THE PARAMETERS ARE:

	DS	US
K1	30	30
K2	20	30
N	5	3
M	3	3

FIG. 62

FORM 0623/60

RACM CORRECTION



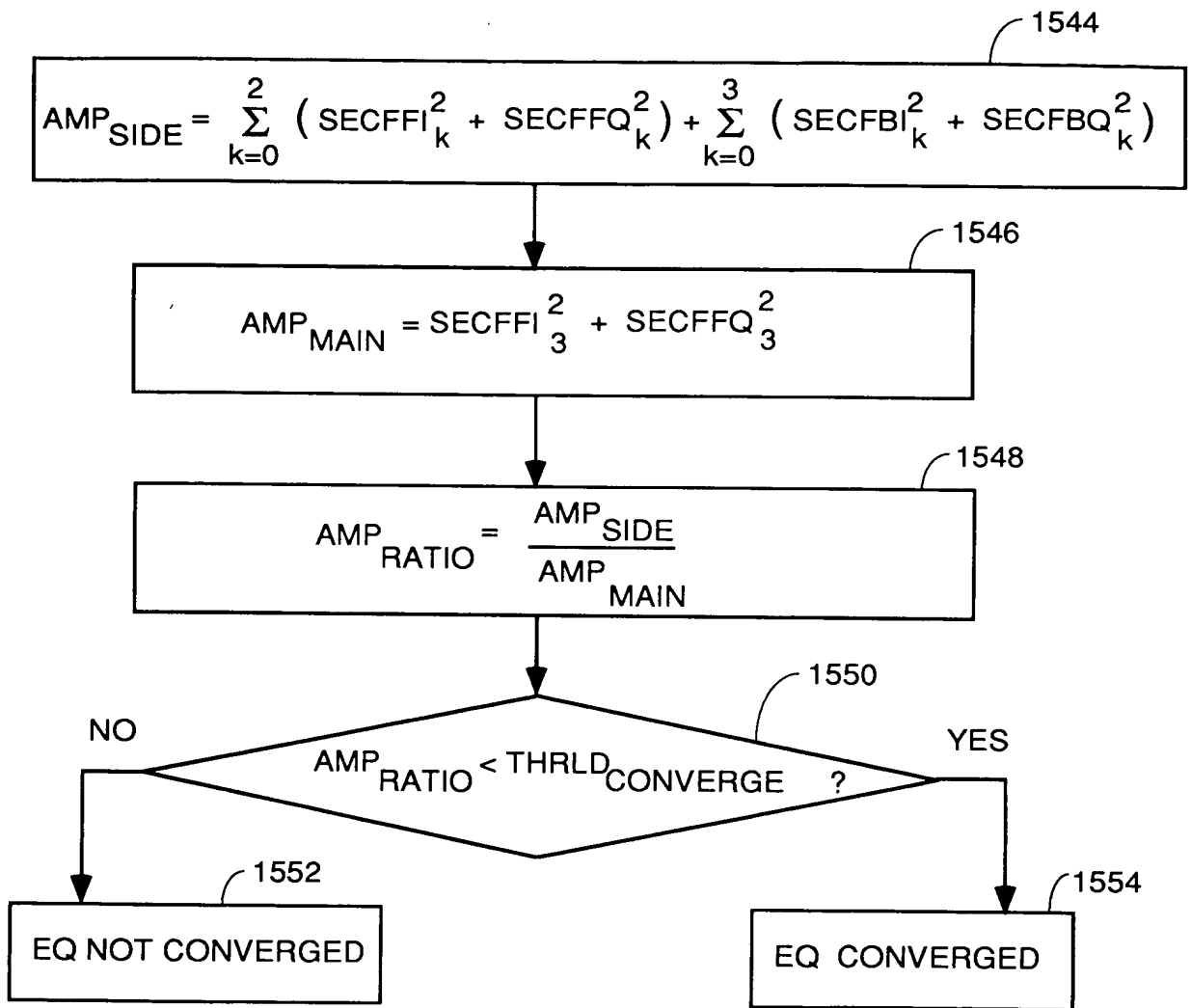
NOTE: THRLD_AMP = TBD
 THRLD_PHASE = TBD

ROTATIONAL AMPLIFIER CORRECTION

FIG. 63

REF ID: A629460

EQ CONVERGENCE CHECK

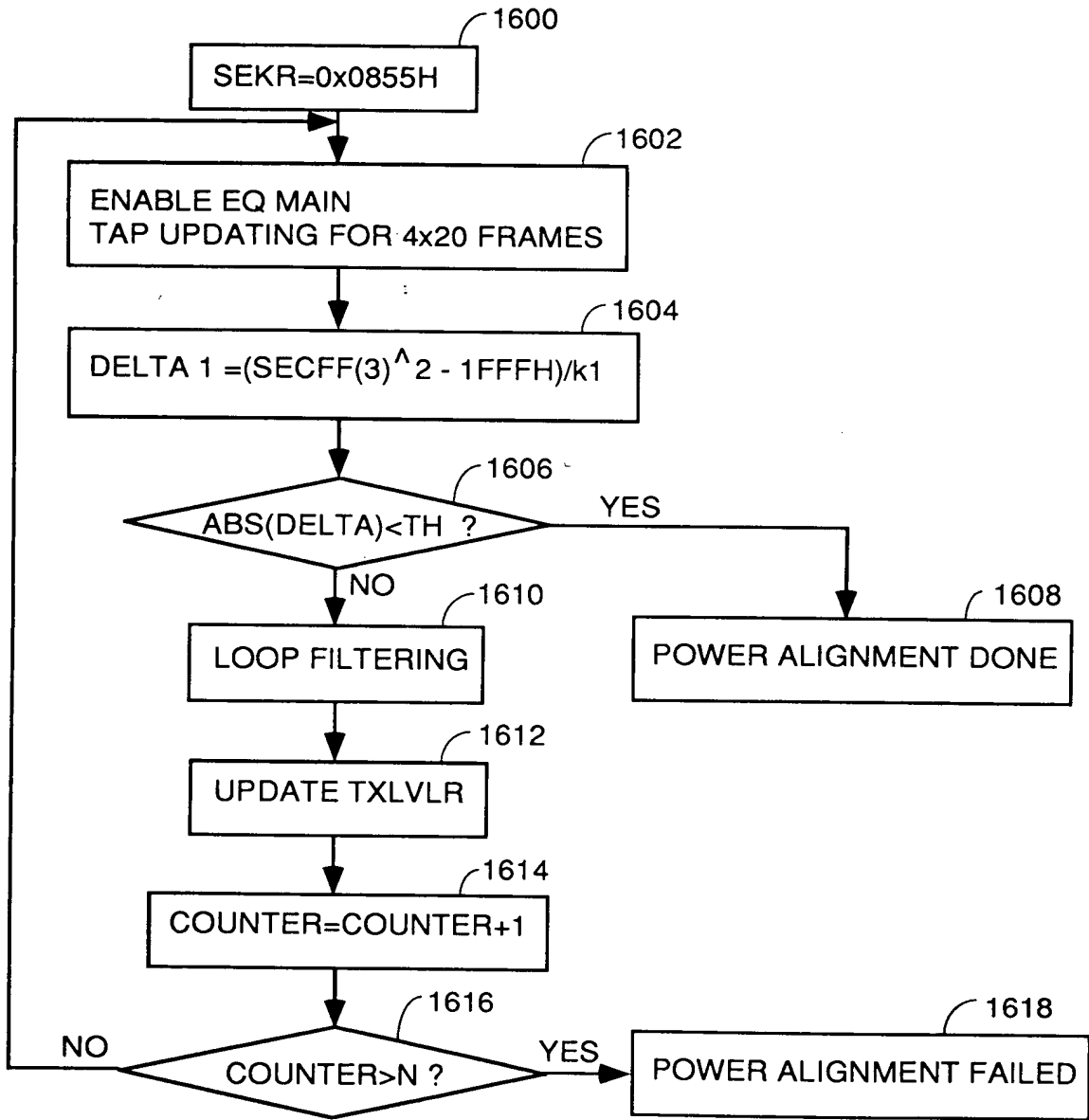


NOTE: THRLD_{CONVERGE} = 10⁻⁵

FIG. 64

FILE NO. 663360

POWER ALIGNMENT FLOW CHART



NOTE: TH = 600H

N = 12

FIG. 65

FIG. 65

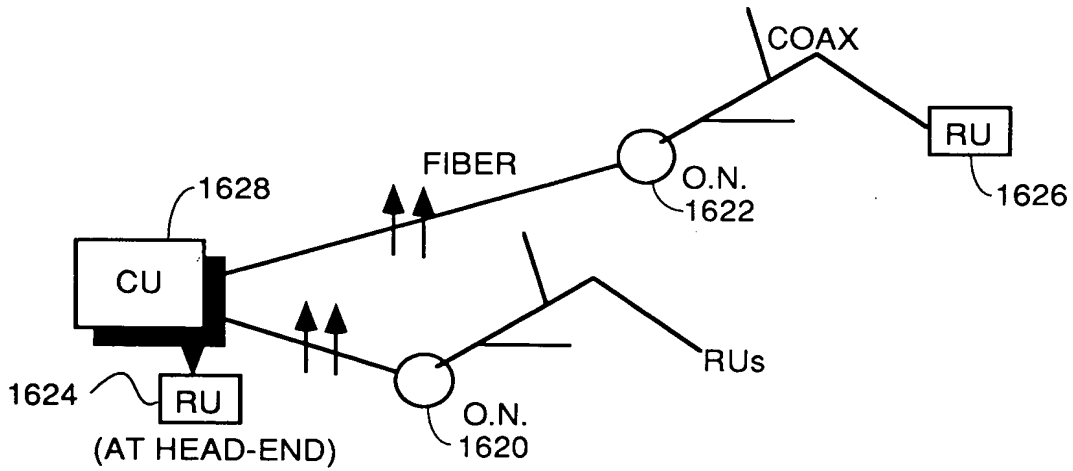
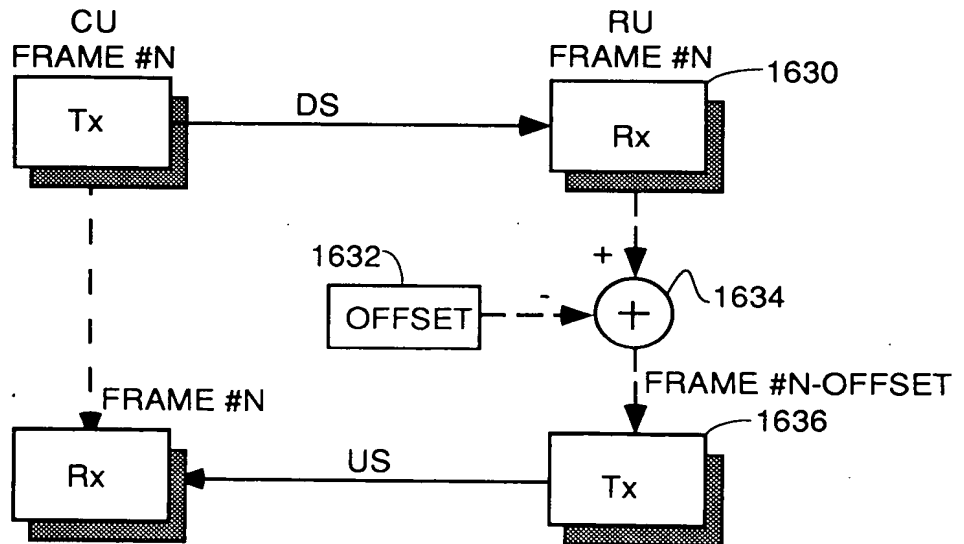


FIG. 66



TOTAL TURN AROUND (TTA) IN FRAMES = OFFSET

FIG. 67

FIG. 66-67

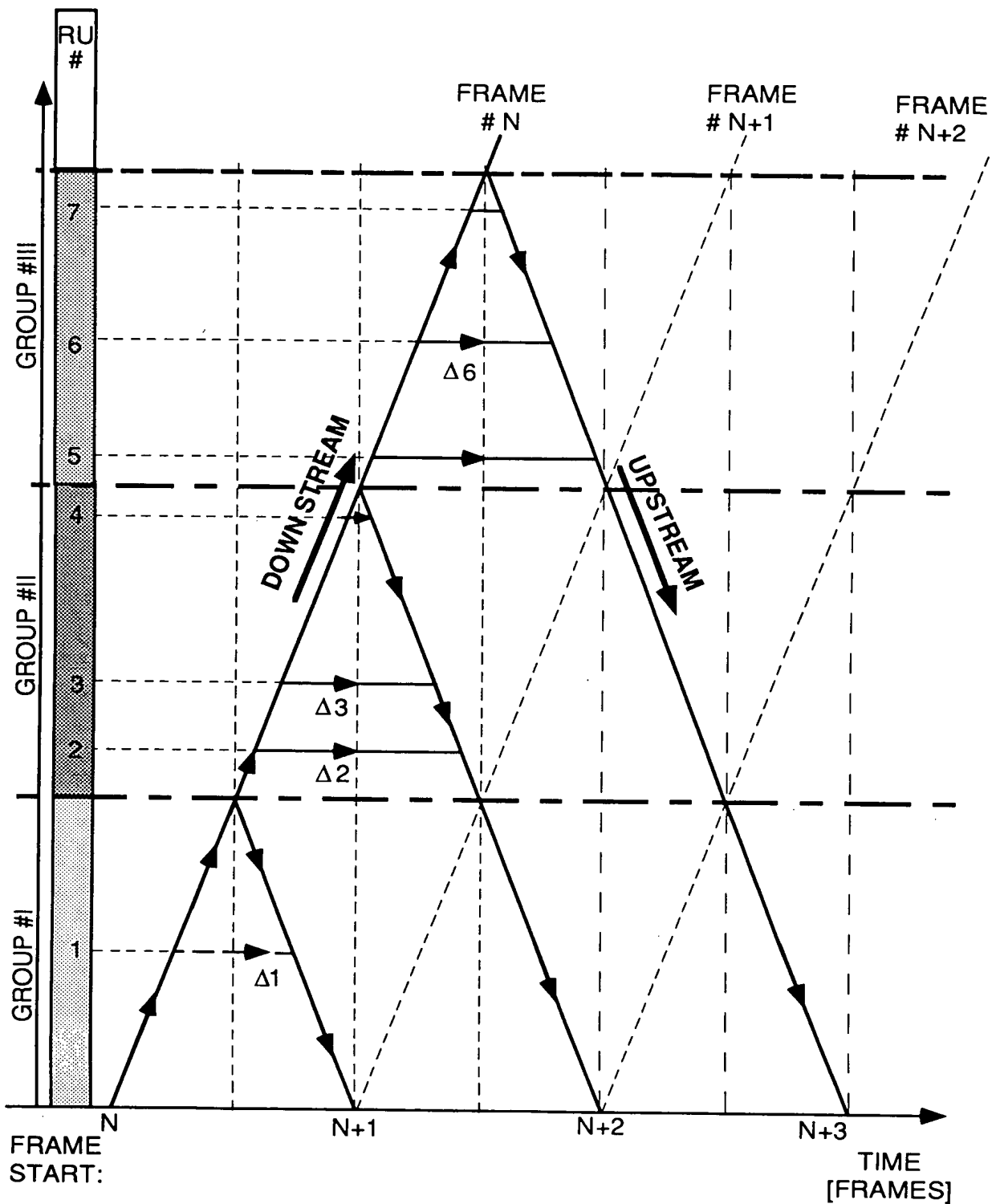
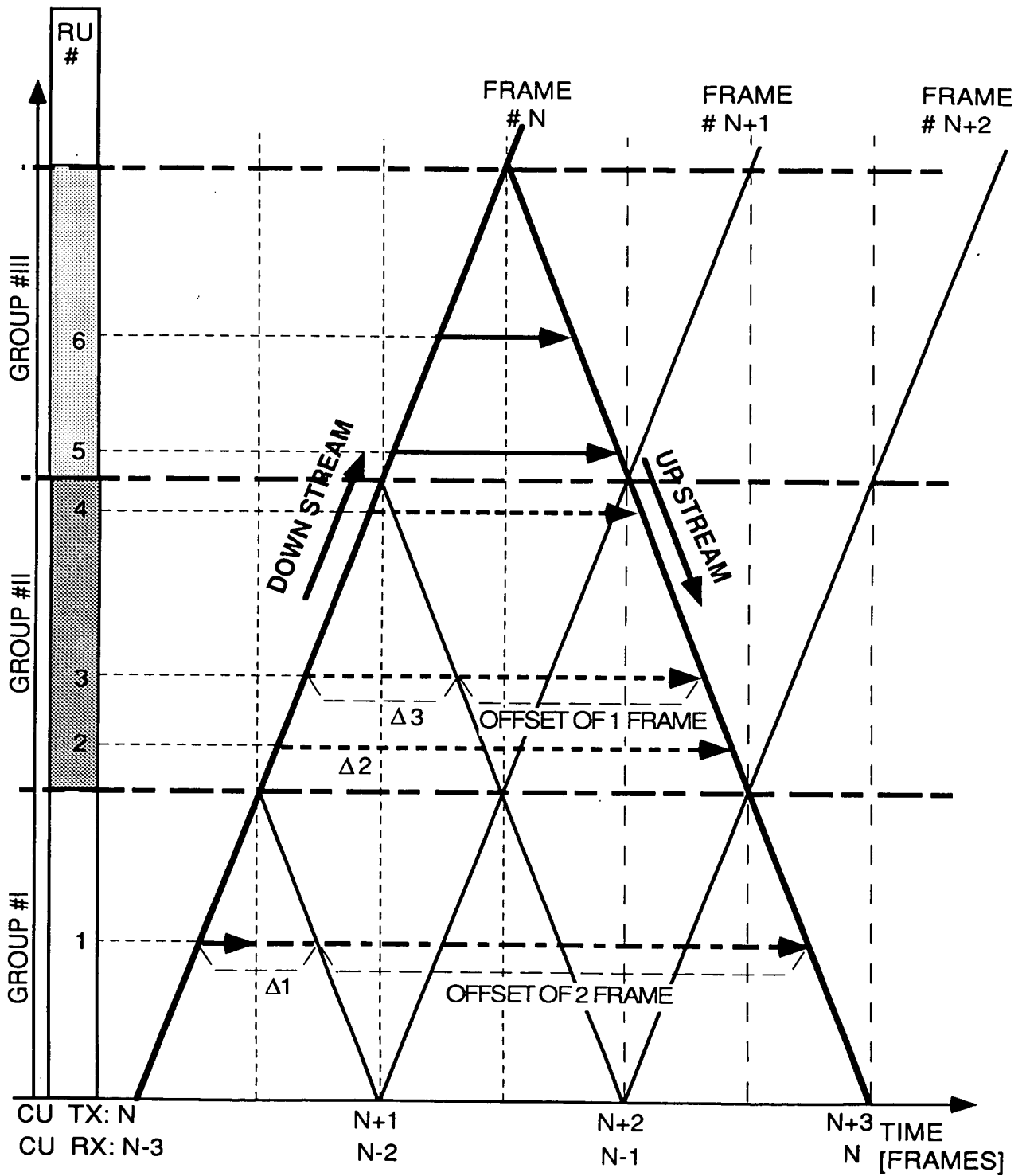


FIG. 68

40010 663360

FILE NO. 6233200



CONTROL MESSAGE (DOWNSTREAM) AND FUNCTION (UPSTREAM) PROPAGATION IN A 3 FRAMES TTA CHANNEL

FIG. 69

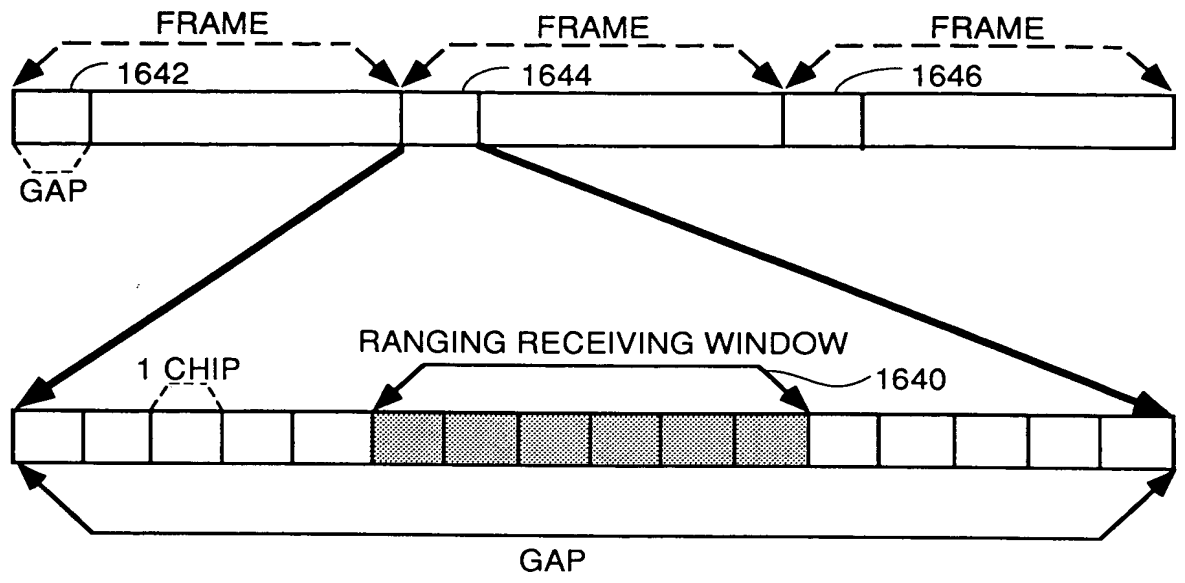
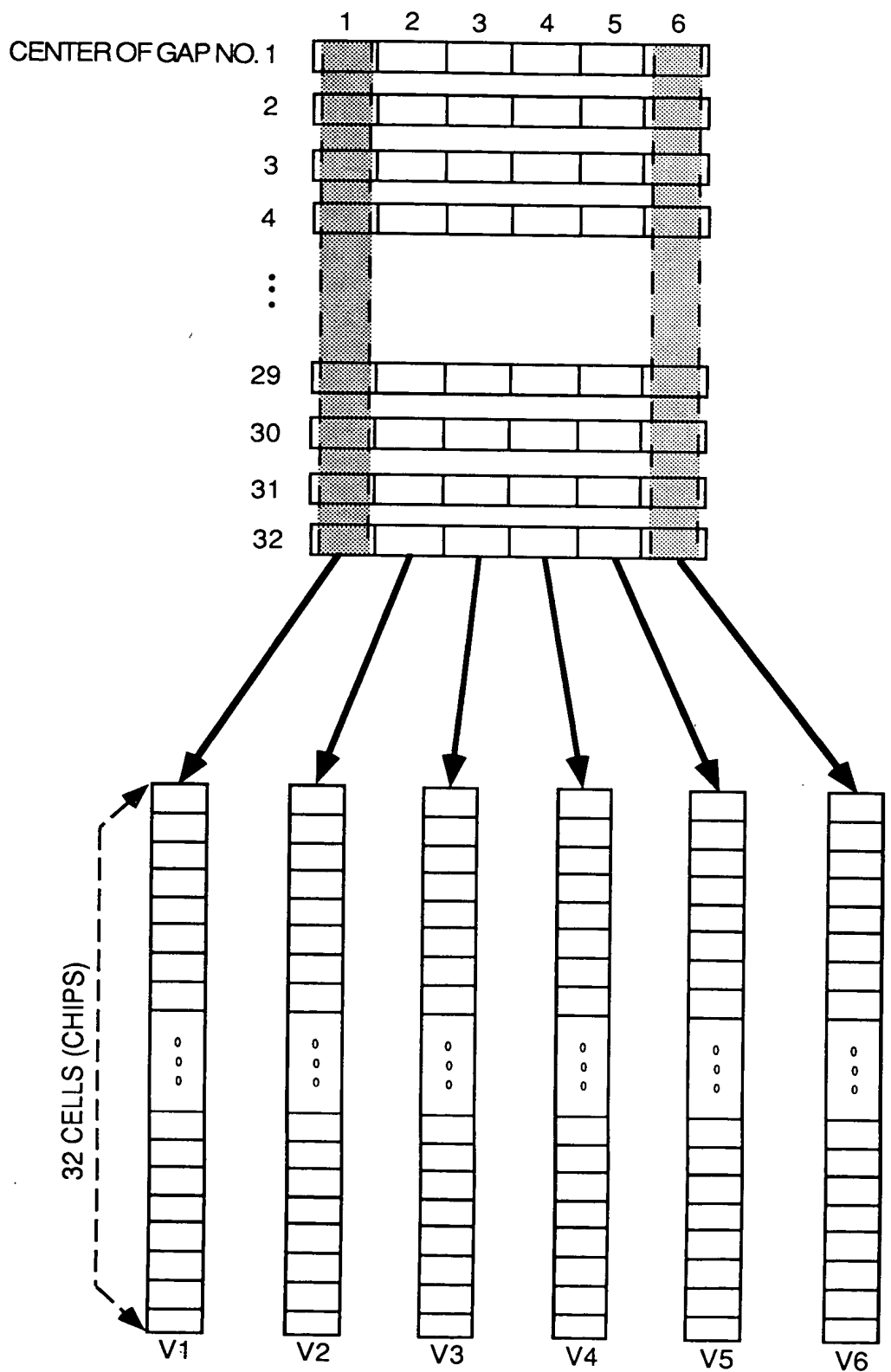


FIG. 70

FIG. 70

Patent 6,633,200



OVERALL VIEW OF THE CU SENSING WINDOWS
IN A "BOUNDLESS RANGING" ALGORITHM

FIG. 71

FOOTNOTES

CHIP\FR	1	2	3	4	5	6	7		33
1	0	0	1	0	0	1	1	...	0
2	1	0	0	1	1	1	1	...	
3	0	0	0	1	1	1			
4	0	0	0	1	0	0	0	...	0
5	0	1	0	0	1				
6	0	0	1	1	1				
7	0	0	0	1	1				
8	0	0	0	0	1	0	0	...	

FIG. 72